# EDUCATION IN HEALTH


LYONS AND CARNAHAN

# EDUCATION IN HEALTH

By

MEMBERS OF THE FACULTY
HARRIS TEACHERS COLLEGE
Saint Louis

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Author of Education
Accident Prevention
Etc., Etc.

LYONS AND CARNAHAN
CHICAGO NEW YORK

This Book is Affectionately Dedicated

to

Dr. JOHN W. WITHERS

by

Its Authors

# EDITOR'S PREFACE

This book is the second in a series which has for its purpose the organization of the subject-matter of the curriculum with reference to specific social objectives. The first book of the series outlined a program of Education in Accident Prevention. This book attempts upon a much larger scale the presentation of a program in Health Education that will make the development of health habits, practices, knowledges, ideals, and attitudes a matter of school routine. It does not anticipate the addition of a school subject; nor does it leave the development of health to the branch of physical education and hygiene.

A plan is outlined through which each subject of the curriculum may contribute its appropriate part to the development of individual and social practices essential to healthful living. The plan of this series is a new departure in educational practice, but one entirely in harmony with present educational theory. This series is a contribution to present educational development by people who are working in practical and theoretical fields and who are attempting to make education serve more effectively the needs of life.

The manuscript for this book has been prepared by a number of persons intimately identified with an educational experiment in Harris Teachers College.[1] The instructors in the various departments headed committees. These committees initiated plans, organized the subject-matter, and presented conclusions for the consideration of

[1] Harris Teachers College includes the Wyman Observation School. The Wyman faculty took a prominent part in the educational experiment.

the whole faculty. After full discussion the committees assembled for further discussion and experimentation. Therefore this program of education in health has stood the test of practical school room experience.

The president of the college is responsible for the idea and origin of this experiment and he has directed it at each step in its progress. He has been assisted by the following committees:

*The Problem of Health Education* — E. George Payne.

*Method in Health Education* — Margaret E. Noonan, W. J. Stevens, Angela C. Devoy, Eulalie Wood, and Lulu Manuel.

*Physical Education* — Ethel R. Weeden, Grace H. Ryffel, Virginia O. Winn, Carrie Arenson, Ruth Cato, and Myrtle M. Vogel.

*Civics* — J. Leslie Purdom, Fannie L. Lachmund, Virginia O. Winn, Marian Alley, Myrtle M. Vogel, and Jane C. Gifford.

*Geography* — Mendel E. Branom, Mary Andrew, Marion L. Higgins, and Elsie Brix.

*History* — Margaret McLaughlin and Mary Andrew.

*Drawing* — Jean Kimber, Florence A. Everett, and Madeline H. Brachvogel.

*Penmanship* — Roselle D. Hughes and Jane C. Gifford.

*Reading* — Genevieve Apgar, Mary Doan Spalding, Edna May Martin, Edna W. Riley, and Katherine Drennan.

*Arithmetic* — J. Andrew Drushel, Julia M. Bayha, and Mabel Billmeyer.

*English* — Margaret McLaughlin, Madeline H. Brachvogel, Grace H. Ryffel, and Jane C. Gifford.

*Domestic Science and Manual Training* — Marion J. Mayo, Edna Schaumberg and Thomas J. Rucker.

*School Organization and Activities* — E. George Payne and Marion J. Mayo.

*Bibliography* — Elyse C. Crecelius, Myrtle Smith, and Virginia Hilliker.

Mr. W. J. Stevens, principal of the Wyman School, has directed the experimental end of the program and with Dr. Eulalie Wood worked out in a general way the topics to be included.

The manuscript of this book was written by members of Harris Teachers College faculty as individuals. However, since these persons were intimately identified with the experimental reconstruction of the curriculum being carried on in the College, the book presents adequately the program worked out.

The writer of this preface is responsible for the chapters included in the table of contents, for their unity and arrangement, and for editing the book, while the persons whose names appear at the head of the chapters wrote them.

June 8, 1921 E. GEORGE PAYNE.

# TABLE OF CONTENTS

Education in Health

# EDUCATION IN HEALTH

## Chapter I

### THE PROBLEM OF HEALTH EDUCATION

By E. George Payne, Ph.D.

*Health an Educational Problem* — The problem of health, like that of accident prevention, is a problem of human conservation, and is vitally connected with education as well as with the whole social policy. In fact, health education, physical education, and education in accident prevention are fundamental in the whole problem of human welfare. Health, moreover, is mainly a matter of education, whether we view it from the angle of the proper conditions that conduce healthful living in a community or from the point of view of the personal qualities in the individual essential to a healthful life. Health, in a constructive sense, is a matter of education since it can result only from the development of habits, ideals, attitudes, and points of view in the individual. For instance, keeping the teeth clean is as much a matter of habit as the observances of the rules of etiquette, and the development of habits is one of the basic functions of education; for when the child is acquiring habits, he is being educated, whether these habits are the result of school, home, or street experience. Furthermore,

health requires knowledge, attitudes, and ideals since personal and social practices depend upon them. Health, for instance, demands that the lungs be supplied with an abundance of pure air at all times; but getting pure air into the lungs at all times is quite a complex matter and involves many habits, ideals, attitudes, relating to one's body, to his personal practices, and to the social life of the community. The individual must have some knowledge of ventilation and appropriate habits which will insure the application of that knowledge. He must have a certain amount of room space in which to work and sleep, hence the knowledge of the effects of overcrowding is important. Finally, one needs also a knowledge of the dangers to health from exposure, contagious diseases, over-eating, and bad food, and an appropriate attitude that will insure the use of this knowledge.

*Agencies Concerned in Health* — Furthermore, health, as an element of human welfare, is possible only through the co-operation of many agencies, as the individual, the family, and the community. All of these agencies are directly concerned in healthful living. While all these agencies are concerned, health can only be assured through school education; for the body of scientific knowledge necessary for health is of so recent development that it has not become the common possession of the community, and therefore can be transmitted only through the school. The school, then, must make itself respon-

sible for the health of the future. Fortunately the function of the school, among other things, is to develop in children those qualities that are essential to good health. The public, although not fully conscious of the fact, maintains the school for that purpose. The school has a curriculum of instruction designed to develop those qualities in the individual that will make him the most effective unit in the social organization. The teaching staff has been employed upon the supposition that it at least has the potential power of determining what these qualities are and how they may be secured through instruction.

From our point of view, we find it convenient to examine the health program under the following heads: the pre-school child, the school child, and the adult that has passed beyond school age. The pre-school period of the child is an exceedingly important one from the standpoint of our social weal; and for that reason, society cannot evade its responsibility with reference to this period. Society must not content itself with the organization and control of the education of children during the elementary school period. It must regard also the educative activities before and after the usual compulsory school period as its legitimate field, and organize the whole of education during the period of plasticity. If the school is concerned with the training of children for social activities and not merely with giving a prescribed amount of knowledge, it cannot escape

the responsibility of concerning itself with the training in and out of the school until children are prepared for their vocational activities or life's work.

*Complexity of Modern Life and Health* — The need of such supervision of the educative process in the life of children has grown out of the complexity of modern life, the development of science, and the growth of knowledge and experience,— factors before noted. Many parents, perhaps a majority of them, are no longer able to provide their children with the proper mental and physical care without some outside assistance, not monetary, largely, but educational. The need of scientific treatment in the care of children is so far recognized that we cannot escape the responsibility of insisting upon it. The need of scientific treatment is exemplified by what has been done in extending care to mothers with children of pre-school age. An examination of infant mortality alone will indicate the social and economic significance of the aid given to mothers in congested environments and with limited knowledge of child treatment. It will also emphasize improvements resulting from the physical care of children. Monograph No. 1 of the Children's Bureau of the Department of Labor of the United States says: "There are no complete records for the United States as a whole which show how many babies die year by year, but Dr. Cressy L. Wilber, Vital Statistician of the Census Bureau, estimates that approximately three hundred

thousand die yearly in the United States before reaching the age of one year."[1]

The statement says further: "If none of these infant deaths was preventable, we should have no stimulus for trying to find a remedy. But we are assured by the highest authorities that the number of deaths can be greatly reduced if we apply the best methods of the growing science of sanitation. Indeed, one great authority says that, if children were well born and well cared for, the infant mortality rate would be negligible."[2]

The statement continues: "In the District of Columbia between 1907 and 1912 death rates of white infants in the first year of life living on streets fell from one hundred thirty-one to one hundred; and among those living on alleys, from two hundred thirteen to ninety-eight; and among colored living on streets, from two hundred ninety-nine to two hundred sixty-nine; and among those living on the alleys from three hundred seven to two hundred sixty-two."[3]

*Infant Mortality a School Problem* — Infant mortality is directly a social and economic problem, but it is indirectly a school problem. Those children who survive the hardships to which so many succumb are the children who are to be taught in the schools. Those who survive may be the hardiest of all, but the conditions that kill so many are sure to leave others with stunted or retarded growth, defective bodies,

[1] See page 7, monograph No. 1.
[2] Idem., page 8.
[3] See Idem.

and impaired mental life. It is a social problem to save the infants from dying, but it is a school problem to see that those who survive are in a condition to receive school training later. Both are problems of education. This is just as important as it is for educational authorities to provide training in the open air for tubercularly disposed children, to insist that children receive proper nourishment before trying to learn, or to give defective children special training under conditions favorable to their future. These functions have long been recognized.

*Health Conditions in the United States* — No doubt many of the physical deficiencies of the school child which are shown in the reports of the National Education Association, of the National Physical Educational Association, and the physical deficiencies of the adult which are shown in health statistics of the army and navy are due to the deplorable state of ignorance concerning the treatment of the pre-school child.

The national health conditions have been forcibly brought to our attention through the large number of rejections in our national army due to physical defects resulting from a lack of the proper health conditions, and physical training, and from accident. General Wood says in the *Metropolitan* of June 1919: "The application of the principle of Universal Service brought to the colors through the draft, first and last, approximately three million men,— men from all sections of the country and from all the races and race mixtures which make up our population.

"It furnished an excellent opportunity to see the men of America as they are; and while the showing was splendid in all that related to willingness to serve the Nation in time of war, either in the ranks or wherever sent, and to do their part in the great struggle for civilization and humanity, for good and fair dealing among nations, it brought to our attention certain conditions which are not only regrettable but alarming,— that only about half of the men of military age are really fit for hard military service. This rating is based upon standards of physical excellence well below those of the regular army, navy, and marine corps in time of peace. The Draft Boards sent forward to the Training Camps seventy and sixty-five hundredths per cent of all who presented themselves for enrollment and were suitably examined by the board. Of those sent to the Training Camps an average of seven per cent were rejected as unfit for any public service; and a large percentage was sent to Development Battalions, and others to Labor Battalions, camp utilities, and special lines of work not requiring the best physical condition; so that, deducting all, it is safe to say that not over fifty per cent, probably less, of the men were fit for line service when the Nation was called to the colors.

"In some of the racial groups from certain sections vice diseases, active or latent, but dangerous, were found amounting to over thirty per cent. Through all the draft there was a lamentable and alarmingly

heavy percentage. The percentage was lower among men coming from agricultural and ranching districts of the Middlewest and Northwest, much heavier among the colored than among the white race. The heaviest percentages, taking the men as a whole, were found among those coming from the large towns and manufacturing centers."

The data gathered from the examinations of drafted men have aroused us to the necessity of a thoroughgoing national policy for the conservation of human life. These data have also led us to analyze more closely the physical conditions among school children in the United States.

The following statistics concerning school children are in point:[1]

Mentally defective.....200,000, or 1%
Organic heart disease.....250,000, over 1%
Have now or have had tuberculosis.....1,000,000, or 5%
Defective hearing.....1,000,000, or 5%
Defective sight.....5,000,000, or 25%
Malnutrition.....3,000,000 to 5,000,000, or 15% to 25%
Adenoids, diseased tonsils, or other glandular defects.....3,000,000 to 5,000,000, or 15% to 25%
Weak foot-arches, weak spines, or other joint defects.....2,000,000 to 4,000,000, or 10% to 20%
Defective teeth...11,000,000 to 16,000,000, or 50% to 75%
Detrimental physical defects.....16,000,000, or 75%

The statistics given for the United States as a whole are confirmed by other data gathered from

[1]Annual report of the National Educational Association, 1918, page 144.

various sources and particularly from a survey made by the Missouri Tuberculosis Association in fifteen schools in two counties, twelve of which were one room; one, two rooms; and two village schools of several rooms. The statement is as follows:

"These physical examinations of rural school children in Missouri have confirmed those made in other sections of the United States in proving that the common physical defects of school children — malnutrition, decayed teeth, defective tonsils and enlarged adenoids, defective eye sight — are disastrously prevalent among rural children. There was remarkably little difference in the medical findings for the two counties.

"The figures may be summarized as follows:

Pupils—

(1) 10 per cent or more underweight.....127 or 22.2%
(2) Having decayed, unfilled teeth.....409 or 72.5%
(3) Who are mouth breathers.....111 or 20.0%
(4) Having defective tonsils.....264 or 47.5%
(5) Probably having adenoids.....265 or 47.7%
(6) Having defective or questionable eyesight.....195 or 34.9%

Number of pupils weighed..... 572
Examined by physicians..... 556

*Health and Safety Education* — In the face of these conditions among school children and among men and women, educators are led to consider anew the whole problem of education for the preservation and conservation of human energy. The consensus of

opinion is that these unfavorable health statistics might have been altered by means of a constructive health program in the schools. The problem of conservation of life involves two aspects: first, physical and health education; and second, accident prevention. The first of these problems involves health education and supervision on the one hand and physical education and recreation on the other. It is the object of this report to outline a policy as well as a program of conservation of the human element among our national resources through definite health activities and instruction. The program concerns itself primarily with constructive health activities rather than with corrective measures.

The statistics presented showing health conditions among children of pre-school age in infant mortality, among children of school age in defects and diseases, among school children and of adults in the army and navy indicate the need of a careful scrutiny of the causes of the unsatisfactory health status. Such an examination leads us to consider the health problem under two heads: first, the problem of community sanitation and health; and second, the problem of individual health.

*Causes of Undesirable Health Conditions — Infant Mortality* — The problem of community health may be exemplified in the question suggested above — infant mortality and its attendant evils. The analysis of this problem from various studies made by the Children's Bureau indicates that there are specific

reasons for these health conditions. Among the most important are, first, insufficient income; second, unsanitary conditions; third, improper housing; fourth, unsuitable and insufficient food and clothing; fifth, lack of proper medical attention; sixth, the employment of mothers. No better illustration of the need of education in the elimination of those conditions which interfere with the promotion of community sanitation could be given than that indicated in these causes of infant mortality. What is the educational problem, then, in relation to infant mortality and the consequent ill health resulting from conditions causing this high mortality? The problem, in so far as school education is concerned, is, first, how to develop intelligence among school children themselves; second, how to spread this intelligence to parents in the home by wise direction of school children; and, third, how to organize school children and direct their activities in the promotion of community sanitation.

Infant mortality is merely a symptom of community conditions which result in a high degree of social incapacity and inefficiency. These conditions must be remedied. Those same conditions that produce a high percentage of infant mortality cause unemployment among adults, induce incapacity for strenuous and continuous labor, and promote a general lack of ambition and will.

*Health in Open Air Schools* — Another case will illustrate how health must be made the subject-

matter of education. It is generally recognized that a considerable percentage of school children suffer from malnutrition, in some cities as high as five per cent. In St. Louis we have gathered, as in other cities, a few of the worst cases of malnutrition into open air schools. We care for about five hundred children each year, and in an average of ten months children are returned to their home schools restored to health; and the means by which this restoration to health is achieved is mainly through proper feeding. Now a remarkable thing about these anaemic and pre-tubercular children is that poverty is not the cause of malnutrition. The parents of sixty per cent of these children pay for their food at the school. This is clear evidence that ignorance, and not a lack of money, causes malnutrition. Through a practical course in nutrition tied up with the school work and with the daily activities of the children, the schools could overcome malnutrition in the thousands of poorly fed children. They could, moreover, make the whole school population, and even the parents, intelligent about the simple principles of correct nutrition. There are also many other community problems that should be directly attacked through school instruction and the activities of the school children, but these will serve to illustrate our point.

*The Scope of Health Instruction* — The problem of health instruction is larger than that merely of the elimination of undesirable conditions from the

immediate community. It is a problem of right habits in the individual of proper ideals and of correct attitudes toward the whole problem of community, state, national, and even international sanitation and health movements. For instance, every school child should be intelligent about the cleaning up of the Panama zone, the elimination of malaria and yellow fevers. They should, moreover, be intelligent about the part that men have taken in the promotion of health along these lines in all parts of the world. There is, furthermore, a subject of no greater interest to school children than that of the history of the origin and development of the effort to eliminate tuberculosis and the intelligent handling of that and other health problems. In other words, the health program should include, as suggested above, such a comprehensive list of topics for development as will result in, not only personal habits, but in an understanding of all conditions essential to a wholesome life in the individual and the group. Furthermore, the program should include activities that will insure a sympathetic understanding and appreciation of the part that an adult citizen should take in the promotion of health endeavors and also some skill in health performance. Finally, every pupil should be deeply impressed with the notion that disease and unfavorable health conditions are due to individual and social ignorance and bad habits.

*Health Education of the Citizen* — The health program is even more fundamental than what is implied

in individual health and sanitation. It has a much wider function than that of merely acquainting the pupils with the conditions determining health and initiating them into activities tending to promote healthful living. It is conceived as a part of a program of education in a democracy which implies a number of important skills, knowledges, ideals, and attitudes. Among the important needs, if we are to realize the objects of the program, are the following:

First, an intelligent participation in the promotion of enterprises to insure healthful conditions. It is useless to think of adult citizens becoming intelligently active in the elimination of neighborhood nuisances, who have been allowed to go through school during the period of plasticity and the time of greatest educational possibility without being allowed that opportunity. The only means, therefore, of developing ability in intelligent participation in community life is to afford that opportunity while children are under the guidance of skilled teachers and school workers. We can say, further, that children who have had no experience in the ways and methods of eliminating undesirable conditions from the school district will not be likely to take an active part in cleaning up the neighborhood when they have completed their school career.

Second, we must to a certain degree locate responsibility for conditions and their elimination in children,— not finally, of course. Adults must take

care of the administration of laws, but children need to feel some responsibility as a matter of education.

Third, there must be an opportunity for co-operation in social tasks.

Fourth, we must afford the children the opportunity to do committee work in the school in which the idea as developed among the student community itself may eventuate in action directed toward the raising of standards of individual and community sanitation.

*Health Education and Citizenship* — No community, whether under autocratic or democratic rule, can carry on its work unless its citizens co-operate through community associations, clubs, committee work, and the like. If this is true, is it not then necessary that the great body of citizens who have only a grade education have some training, not merely theoretical, but practical, in initiating, promoting discussing, and carrying out projects that will equip them for a more intelligent and effective participation in the kind of community work they will be called upon as citizens to perform? Should we be satisfied with training and skills merely in the use of tools of a non-social character? Do we imagine that the most difficult of all tasks can be learned accidentally in connection with the performance of vocational acts? Effective citizenship implies training through action, not in arithmetic, geography, and the like merely, but training that will result in skills, ideals, and attitudes in the performance of community

functions. Poverty, unsanitary conditions, bad politics, and the innumerable social ills are the result of social ignorance and incompetence brought about by our failure as teachers or educators to conceive that it is our task to develop the very skills and ideals in the children during the years of plasticity that an ideal society calls for.

Fifth and finally, the school should be a miniature community in which the children learn to assume responsibility for the future welfare of the group of which they are a part. This is a new call to social service. It has become unpopular in this age of extreme individualism to appeal to the instinct to serve, and yet this instinct is just as fundamental in the nature of man as is the instinct to protect oneself by providing for the future. This aspect of child nature has been to a large extent neglected in the schoolroom because the teacher has emphasized the learning of tasks of supposed benefit to the child alone. I believe that this point of view of the teacher in the last half century accounts for many of our social ills today. For this reason, a fundamental part of the new education must be exercises in social service, not merely knowledge about ideals of social service. In other words, the child must develop in the schoolroom an intelligent attitude toward and correct habits in community responsibility. This program of health education, then, proposes outlines, projects, subjects, and activities that will secure effective results from school education.

## Chapter II

# THE METHOD OF HEALTH EDUCATION

By Margaret E. Noonan, Ph.D.

It has been pointed out in the previous chapter that health in a constructive sense is a matter of education since an individual can be healthy only in proportion to the number and effectiveness of the health habits, ideals, and attitudes that have been built into him through training.

In stressing the importance of education in a social program for health there is no desire to minimize the influence of heredity on physical well being or to discount or disparage any social eugenic movement that is directed toward the physical improvement of the race. The fact remains, however, that no matter how strongly hereditary factors have tended toward physical perfection in any individual the complex social life of the present makes proper physical development impossible unless the individual has acquired the proper health training to conserve and develop his hereditary endowment. It is equally true that individuals even seriously handicapped by heredity along physical lines may largely overcome, by the development of right health practices, such handicaps.

*The Place of Education in Health in a School Program* — Society's chief educative institution, the

school, must, therefore, face the responsibility of setting up physical standards to be attained, of encouraging and developing ideals that will tend toward better physical development, and of forming sound health habits that will enable its members to meet adequately the complexities and difficulties of modern social life. The school may and should utilize all other educative forces, such as the home, the neighborhood, the community, boys' and girls' clubs and organization, as far as it can in attaining the ends which it seeks; but the school must take primary responsibility for co-ordinating, reinforcing, and directing these extra school influences and agencies to the accomplishment in the most effective way of a complete and well rounded health program. When environing influences are antagonistic to or destructive of a health program, the responsibility of the school is more marked than when such influences are favorable. Environing influences will be modified so as to furnish conditions conducive to healthy development only when a sufficient number of individuals have, through education, become sympathetic toward such modification. Society, then, must look to the school, and above all to the elementary school, if the individuals that compose it are to be physically able to carry on its work in an environment favorable to sound healthful development, and if it is to have communities in which there are large numbers of people with knowledge as to what constitutes good health, with ideals and attitudes

toward health, and with well established health habits.

Good health is not merely a result of knowing some facts concerning hygienic living and of indulging with more or less regularity in practices that are deemed healthful. Such practices cannot be relegated to a separate portion of a day or week, and neglected at other periods. Good health can only be secured through healthful thinking and practicing coexistent with life itself. The completely healthy individual is not the one who indulges in certain activities to secure health, but the one who makes every activity of his daily life contribute to the building of sound health habits, ideals, and attitudes. Just as one cannot become a social or a moral being save by complete social and moral living, so one cannot become a healthy individual save by continuous integration of all living with healthful practices and purposes. If the school is to perform its proper function, every activity that takes place within the school must contribute to the establishment and encouragement of healthful living and to the development of standards of health.

If this be true, it is clear that we cannot secure sound health habits and ideals by setting apart a portion of the school day or week for the formal teaching of health. Rather, the entire school curriculum in reading, language, civics, history, and in fact in all school subjects, must be thought of as materials and means through which children become

more social, more moral, and more *healthful*. Every school situation, as every life situation, is either healthful or unhealthful. It is the business of the school to point out during all the hours of the day in all subjects those situations that are conducive to health and to the acquisition of healthful practices, and those that are detrimental.

Every school subject in addition to building knowledge or skill along its own particular lines should constantly secure knowledge and judgment with regard to such important social objectives as thrift, self-control, honesty, safety, and health. These objectives cannot be adequately realized by limiting instruction in them to a small part of the day. They must constantly be kept in mind by the teacher in connection with all subjects and all schoolroom activities. Only through constant reiteration of the importance of each in all situations as they occur in the schoolroom will they become an integral part of the child's life and consciousness.

This conception of the method to be employed in establishing an adequate health consciousness permeated the thinking of all those who have contributed to the building of the course presented in the following chapters.

*Education in Health Not a New Subject* — The course is distinctly *not* intended as a new subject to be added to the curriculum, but is designed to show how the ordinary subjects of the curriculum can be utilized in teaching health. Every subject has been

carefully scrutinized and analyzed in order to determine how far its content can contribute to the formation of desirable health habits, ideals, and attitudes. The course here proposed should be thought of as only partial and suggestive.

No course could anticipate all of the situations that would arise in any class room that have health implications. The most significant situations may arise unexpectedly, and the wise teacher will effectively utilize these.

A number of typical situations, many of which will arise in connection with the various subjects of the curriculum, are here given in order to make teachers aware of the great number of topics and activities that have health significance, and to show how these may be used to build a health consciousness in growing children. The skillful teacher will be able to find many situations in her own class room growing out of individual or class projects that have greater significance for the children of her group. These can well be utilized rather than the ones suggested in this course. It will, nevertheless, be of considerable benefit to all elementary school teachers to read carefully the entire course as many of the topics suggested in it will necessarily arise in any class room.

*Health Habits and Health Consciousness* — An adequate health consciousness in any individual implies that he has a knowledge of the facts that are necessary in order to select conditions conducive to health, that he has many well established, desirable health

habits, and, in addition, an appreciation of, and a feeling for, the worthwhileness of health in individuals that is sufficiently strong to induce him to make his own practices always contribute to the building of health.

It is important to keep in mind that one must not only know facts bearing on health, but that one must constantly see where these facts may function in creating healthful environing conditions. Much of the instruction given in the elementary schools under the names of hygiene, physiology, or health lessons and that has been designed to make healthy individuals has failed to accomplish its purpose because it has been unrelated to health or because children could not see specifically where the information given could be used in carrying on their life activities. This course, therefore, has not only indicated the knowledge which it is desirable for children to have, but has organized and applied this information to definite specific situations, which come within children's experiences in order that they may be stimulated to do something with their knowledge. The course will distinctly fail in its purpose if teachers, using it, do not keep constantly in mind the necessity of having the health facts that are taught grow out of situations which her children are experiencing, and if there is not a constant emphasis on practice in accordance with the knowledge gained.

It would be highly desirable if we could establish a definite health habit in connection with every situa-

tion which comes up in life. This is, of course, impossible since we cannot anticipate all the situations which a child will meet and since some of the situations with which we wish to establish habits cannot be created in the schoolroom. Our problem, nevertheless, is to establish as many desirable health habits as we can. The method to be employed here is the same as should be employed in establishing any habits. We must (1) get clearly before the children a knowledge of the practices that lead to good health; (2) create in the schoolroom situations that will furnish practice in these habits; (3) consistently approve of the correct practices and disapprove of the incorrect until the children have built into their own consciousness a feeling of satisfaction in desirable health habits.

*The Difficulty of Securing Life Situations* — In establishing health habits we are confronted with some difficulties which are not so marked in establishing habits in connection with such school subjects as arithmetic or reading. Frequently it is very difficult and sometimes impossible to create the real situation in connection with which we wish to establish the habit in a schoolroom. It is a well established psychological fact that habits can be most effectively formed in connection with the real situations in which they are to operate or in something approximating these situations. If, for example, a teacher wishes to have children establish the habit of selecting nutritious rather than sim-

ply palatable food, the following plans may suggest themselves:

1. Getting children to actually choose the desirable kinds of food in the school lunch room.

2. Having different children tell in oral or written form the kind of food that should be chosen.

3. Having children choose from a chart containing pictures of a variety of foods or from a menu card the ones most desirable.

It is apparent that the situation presented in (1) is most real and would be most effective in the establishment of the correct habit. It is equally apparent that the plan in (3) resembles more nearly the real situation than the one in (2), and the possibility of the habit established in this way affecting one's action in the real situation would therefore be greater and should be used in preference to plan (2).

Where it is impossible to create the real situation or something closely approximating it in reality in the schoolroom, there is no advantage, but rather a loss, in substituting purely artificial situations. For example, it may be very desirable for children to form the habit of sleeping in rooms with open windows to admit fresh air. The best way to establish this habit is in the home since the real situation cannot be brought into the schoolroom. To attempt to meet this difficulty by having children construct a doll house in which dolls are regularly put to bed in a room with lowered windows has very doubtful value as a means of forming the habit we desire to form. This

method may impress on the minds of the children the fact that windows in sleeping rooms should be opened, and it will probably impress it more forcefully than the daily repetition of the rule, "Sleep with your bedroom windows open." In either case, however, we are simply giving information which may or may not lead to a desirable practice. In trying to get this particular habit established we may go a step beyond the mere giving of information. We can have children report daily on whether or not they sleep with open bedroom windows, and approve of the desirable practice. It is, however, often difficult for little children to discriminate between disapproval of themselves and disapproval of a condition, and they are therefore led to make false reports to win approval. It is probably better in such situations to recognize that all the school can do is to give information in the most impressive way possible of practices that are desirable and show why they are desirable rather than waste time in attempting to form habits in connection with artificial situations. When children are sufficiently impressed with the desirability of certain practices, they frequently take the initiative in the home in seeing that the practice is carried out. It has been pointed out previously in this chapter that habits cannot be established effectively unless wrong responses are consistently disapproved of when they occur. It is, therefore, much more difficult for the school to establish habits of health than it would be, for example, arithmetical habits. A wrong response in the home, in the store,

at the news stand to "5 and 5" is consistently disapproved of, but the eating of food with unclean hands is not so consistently disapproved of. Moreover, the child frequently in the home is building habits that are in opposition to those the school is encouraging. While the school is emphasizing the individual drinking cup as a sanitary measure, the home may be encouraging the use of a community cup. In arithmetic or geography we can to a considerable extent prevent the situations that would be wrongly responded to from arising outside of the schoolroom until the correct response has been habituated, but health situations cannot be limited to the schoolroom since all living is either healthful or unhealthful.

*Essentials in the Formation of Health Habits* — If the home and street are not to nullify the good habits which the school is attempting to inculcate, two things must be done. (1) We must make the information with regard to health impressive and must see that it is thoroughly bound up with a feeling for the value of good health so as to insure the cooperation of the child in disapproving of his own wrong responses when they occur. (2) We must secure the cooperation of the home and perhaps teach the home what the desirable habits are which the school is attempting to establish, through the health records, health charts, health clubs, and through allowing additional credit for health practices outside of school. The use of standardized health cards, charts, and records in competitions where children keep a continuous record of

progress tends to establish health habits through constant exercise and to secure the approval of the individual or group for those who are accomplishing the desired results.

Children and adults frequently make desirable responses in connection with some situations and fail entirely to see wherein other situations are analogous. In order to establish habits that will operate in a variety of situations, it is necessary to make clear to children as many situations as possible where the desired response will apply. For example, they must not only be made to feel the necessity of keeping the food in their homes free from flies, but also the necessity of purchasing food that has not been exposed to flies.

There is no sharply defined period in the life of children when they cease to form habits and begin to establish ideals and attitudes. There are, however, certain habits that should be pretty well established in the first four grades of the elementary school curriculum. These are: (1) habits of cleanliness of the whole body with special emphasis upon the teeth, nails, hands, and face; (2) habits of exercising in the open air; (3) habits of sleeping in properly ventilated rooms; (4) habits of properly chewing food; (5) habits of selecting the proper kinds of food; (6) habits of keeping other things than food out of their mouths; and (7) habits of taking the proper amount of rest and sleep regularly.

*Attitudes and Ideals Relating to Health* — In addition to the establishment of health habits, it is necessary to

create health attitudes and ideals, in fact, to build a complete health consciousness. This can be done only by constantly talking health, by keeping it ever present in the minds of the children, and by showing the value of good health practices and the dangers of bad ones. In doing this the school needs to avoid the extreme exaggeration that it has sometimes been guilty of in its attempt to make health teaching effective. The drunkard's stomach, as a horrible example, has been greatly overdone. It is better to put the emphasis on positive practices and to limit a statement of their value to those that can be shown to be true. Biographies and stories of men and women who have by their work contributed to our knowledge of disease and have pointed the way, even by sacrificing their own lives, to the more effective control of disease are more likely to create ideals and attitudes toward good health conditions than horrible examples of individuals who have disobeyed health laws. The lecture, debate, oral or written composition, or dramatic presentation may be simply a means of giving information of some desirable health rules and practices; but the skillful teacher, besides giving this information, may arouse in the children so strong a feeling of the value of health as to affect their practices even though the specific bits of information are forgotten.

In the entire health program the appeal should be to motives that have significance to children. We are not in pedagogical sympathy with such statements as: "Every child in the public school should be

made to understand that his first and most patriotic duty is to make and keep himself as strong and vigorous as possible so that he may serve his country well," "The first step in the development of health habits is to make the child desire health because it is an avenue to *success and happiness in life.*"

Little children should be encouraged to brush their teeth because they will look better or because it will give them a sweeter breath, and not because of any patriotic duty. They should be urged to wash their hands, to clean their faces, to stand straight, not to play with cats, because these things will make them look prettier, grow straight and big, or so that they will not get sick or have a pain. Even in the upper grade children will be more interested in practices that can be shown to be for the good of the community in which they live than in such vague appeals as the securing of "success and happiness in life."

*Organization of Material for Health* — In the organization of the material in this course there has been utilized in the first grade the projects that are built around the activities of the home, since these are the ones with which children of this age have the greatest amount of experience. In the following grades as the experience of the child widens and enlarges, there have been introduced those activities from the school, the neighborhood, and the community in which children are interested because such activities touch intimately some aspect of their lives. Parallel with the growing experience of the child, as he progresses

through the grades, projects growing out of the activities carried on in the city, the state, the United States, and the world as a whole have been introduced. The same subject is frequently discussed in several grades, but from different angles in the light of the enlarged experience of the child. For example, the covering of the garbage pail in the home, the proper disposal of garbage in pails in the school yard, the collection of garbage as a municipal activity, and the relation of unsanitary garbage conditions and Asiatic diseases in Constantinople, are aspects of the same subjects that may be discussed at different times in the school course as the widening experiences of the children warrant.

This course will be most helpful to those teachers who take the actual experiences and contacts of their children as the point of departure and use the material here offered as merely suggestive of some ways in which activities may take on health significance.

## Chapter III

# POSSIBILITIES OF HEALTH EDUCATION THROUGH PHYSICAL TRAINING AND INSTRUCTION IN HYGIENE

By Ethel R. Weeden, A.B.

*What Physical Education Can Do for Health* — We have set up in the preceding discussions certain health standards which are regarded as desirable and essential to the health of the individual and the community. Our problem, now, is to determine wherein the subject matter of physical education may contribute to the establishment of habits, the awakening of interest, the enriching of knowledge, and the development of practices and attitudes in conformity with these health standards.

There are four principles that must guide us in our program: first, we must utilize the interests for health measures that develop naturally in the course of the right kind of physical training activities; second, we must build a body of knowledge about these interests; third, we must practice skills required to build health habits; fourth, we must plan the curriculum of physical training so as to inculcate motives and arouse the desire to obey the laws of health. Physical education can and should make a very definite contribution to health education in the following ways: it should provide for those types of physical activity which are particu-

larly suitable for developing the physical power necessary for health, stimulate an interest in the practice of such activities, and give knowledge as to when and how to engage in these activities; it should awaken interests and build skills for the kinds of activity which provide a healthful form of recreation throughout life; it should develop an appreciation of good posture and correct carriage of the body; it should provide for a knowledge of exercises which will help to correct certain physical disorders such as round shoulders, flat feet, constipation, menstrual disorders, nervousness, fatigue caused by sedentary practices, colds, etc.; it should develop a taste for pure and wholesome food and suitable clothing, baths, regular habits of work, recreation, and rest; it should arouse a desire for health and show how health may be attained.

*General Principles* — The following presentation will show: first, the types of exercises which are most suitable for developing the physical power necessary for health; second, how these activities should be used in order to develop a taste for recreation in the open air; third, how interests developing naturally in the course of recreative activities may be seized upon and utilized to develop knowledge, attitudes, and habits concerning food, clothing, air, cleanliness, and exercise. The treatment is designed to be suggestive and not exhaustive. Grading cannot be hard and fast, but must meet the interest and needs of any group.

*Weigh and Measure* — The first health objective in a physical education program is to determine the

physical condition of each individual and to get the individual interested in improving or in maintaining the best physical condition possible. For this purpose arrange for weighing, measuring, and testing physical development and for keeping a record of the condition and progress of each child. The "Watch your weight" tags and weight charts which are provided at a nominal cost by the Bureau of Education of the Department of Interior will make a good starting point for this work, or these charts and tags may be typed or written.

The tags furnished by the Government have the "rules of the health game" printed on the back. A request for suggestions or questions from parents should be added to the tag in order to gain the cooperation of the home in helping the child. These charts and tags may be used as a starting point in interesting the children in health measures.

*Utilize Opportunities* — The teacher should first of all utilize the many opportunities that occur during the physical training activities to interest the children in health. Tastes and habits relative to cleanliness, air, food, clothing, posture, work, and recreation are peculiarly within the province of physical education. She should draw out frequent expressions from the children of the health results which may be expected from physical education. When the occasion warrants, the children should form judgments as to where, when, how, and under what conditions they ought to play, work or rest; what to wear; what, when, and how to eat; how to keep clean; and how to carry themselves.

The children should be led to plan to do these things which they decide are essential to health, and they should be helped in every feasible way to carry out their plans. They should check their results from time to time on score cards, record forms, etc., in order that health habits may be formed.

*Teach Specific Hygiene Lessons* — In order to build a body of knowledge about the interests awakened, the teacher should plan for a series of specific lessons on the subject matter of health, making lesson outlines for the various subjects; but she should be sure to use these outlines at opportune times. The outline should include an objective, indicating knowledge to be acquired, illustrative and reference material, provision for children's questions, contribution, and discussions, and provisions for organization and application of knowledge. In this connection, the children may find out and build up a list of health habits that are needed and habits which should be broken in the individual, in the school, in the home, in the city, in the country, and in the world as their progress in their school life broadens their interest from the individual to the world relationships.

*Supervise Health Habits* — In the lower grades, the teachers may use the suggestions that come during the the course of plays and games to get an expression of what one should do to be healthy. In singing plays, such as *The Mulberry Bush*, the child may express in word and action the habits of cleanliness to be formed. In *Did You Ever See a Lassie* the children may play

through the activities for keeping the home clean. A bump or scratch received on the playground gives opportunity for the group to learn what to do in a case of First Aid. The teacher leads the children to raise questions and then approves of right expression in word or action on the part of the children.

In the intermediate grades, the children may elect leaders and committees for health promotion measures and help plan their own programs for recreation. They may be led to see that the clean, healthy, straight, strong boy or girl makes a good leader and that the right kind of play under the right conditions contributes to health. The children in these grades should formulate a Health Creed on the order of that of the Boy Scouts, Camp Fire Girls or the Speyer Creed and use it to guide them in their practices.

In the upper grades, the children should organize their leaders and committees into a Health Club, a Health League made up of the different health clubs in a school or district, or a Health Council made up of representatives from the different groups within the school. This club should function in carrying out health practices in so far as these are a part of physical training and hygiene.[1]

*Promote Interest and Knowledge* — There are various ways of awakening interest in and increasing knowledge of health, such as a question box, a health roll, community health conferences, to which parents are invited, health games with objectives, rules, penalties,

[1] The details of club organization presented in the final chapter.

and scores for the game, inspections and reports by health officers selected from among the group, credits for distinct health progress or health service to the community, score cards and graphs of records of different groups of children, tables showing achievement of children in other cities as, for example, Stecher's Athletic Records of Philadelphia School Children, the Athletic Badge Tests of the Playground Association of America, which are suggestive and stimulating for individual activity, health charts, posters, calendars, pictures, mottoes, exercise cards, newspaper and magazine clippings and picture programs, and the material on health and exercises issued by various organizations. Children requiring specially prescribed exercises should be noted, and plans to care for them individually should be worked out. A nutrition class, a posture class, etc., may be organized.

The playground should be arranged and marked so as to suggest games of vigorous activity. There should be marks for such games as Dodge Ball, Volley Ball, Captain Ball, End Ball, Baseball, and Basket Ball and marks for dashes and throwing; and a jumping pit should be provided. There should be a board for scoring. Some cots in the corner of the playground covered with canvas for protection, are desirable for children who need to rest during the day.

### Lower Grades

*Suggestions for the Teacher* — There should be frequent play periods in order that the little children

may have the necessary activity for physical growth and development. This play should be out-of-doors whenever possible in order that they may get the out-door habit. The teacher should play with the children so as to study their needs and to help them make necessary adjustments and play in the most healthful way. She should ask the children what they wish to play, and lead them to select the game most suitable for the occasion in order that they may be whole-heartedly active and get the most benefit from the play time. She should help the children to improve their way of playing by means of questioning as to better ways of doing, and help them to develop new games, and encourage them to tell others about the new games they have learned. This method will train the children to take the initiative in starting plays and games so that there will be less standing around on the playground, less "fooling," and more vigorous, healthful exercises and helpful social relationship. She should lead from the fundamental ryhthms into representative and dramatic plays, song plays, and folk dances, and from song plays into games utilizing toys, stories, pictures, and victrola records, when possible, to start plays and enrich the play.

She should seize every opportunity for setting up standards and approving of cleanliness of person, thought, and speech; approving of cleanliness of body, speech, dress, and room or playground, of sound, good, clean teeth, clean nails, hair, nose, ears, and eyes, of good posture in sitting, standing and walking, and

the right kind of footwear, of strength, quickness, endurance, and of helpfulness to those who are not up to standard. She should encourage the children to sit, stand, and walk so as to be as tall as they can be. Children wish to be tall and big. The teacher should approve musical singing and speaking in plays and on the playground because of the effect on the vocal cords and on the nerves of other people. The best music should be used to accustom the children to rhythmic activity which is the form of activity most economical of the expenditure of energy and to educate them to approve good music which suggests refined expression and to dislike crude music which leads to most unhealthful forms of physical expression in the social dances of those uneducated in self respect and right kinds of exercise.

Blackboard games in which the children work to get their names on the board for having and using a toothbrush, for good nails, etc., stimulate effort. The children may choose from contrasting pictures illustrating healthful and unhealthful practices, and post the illustrations chosen.

The teacher may weigh and measure height and find average weight for each child, record monthly, and send home the "Watch your Weight" tag with rules of the health game or health suggestions as to air, food, clothing, sleep, play, and work on the back of the card, and a request for suggestion from parents.

The following suggestive occurrences and conversations, in which the teacher leads the children to

express health ideas, give examples of what one may do to develop attitudes and initiate habits of cleanliness, disease prevention, and what not to do.

A child's reluctance to take hold of the hand of another child who is not clean. What kind of hands do we want to take hold of in games? Clean, dry hands with good finger nails that have not been put in the mouth and bitten. What kind of hands do we want to be tagged with in games? Hands that will not soil our clothes, with nails that will not scratch us.

*Dirt on the Hands and Clothes from Playing on the Floor* — Where is the best place to play? Out-of-doors on the grass or on a clean playground with no fruit skins scattered around to slip on or on a clean floor. What should we do after we have played and soiled our hands before we handle books or food? Wash the hands.

*The Discomfort of Heat and Perspiration after Vigorous Play* — What should we do when we are very warm from play? Avoid sitting in a draught, and cool off gradually.

*Going to the Playground to Play* — Should we go to play directly after eating? How should we dress to play? How should we dress after play if we sit out-of-doors on a cool day? How should we dress to play on a snowy day?

*Staying Indoors to Play* — What should we do if we play vigorously indoors? Open the windows, top and bottom, and have clean floor.

*Learning a New Game* — Why do we want to learn new games? So as to know good games to play when away from school and games to teach to other children.

*Bandaging the Eyes with a Handkerchief for a Tag Game* — Why should we not use a handkerchief to bandage the

eyes in "Hide and Seek" or to drop on the ground in "Drop the Handkerchief"? What is a handkerchief for? Why do we want to keep the handkerchief and nose clean? What may we use in games instead of the handkerchief? Paper bags.

*Breathlessness in Running* — Why do we get breathless? How should we breathe? Should we breathe with the mouth open? How many can breathe through one nostril with the mouth and the other nostril closed? Do we have pure air to breathe at night?

*The Use of the Voice in Plays and Games* — Why should we not shriek and scream in play? It will injure the voice and make other people nervous.

*Bumps and Bruises* — What will you do if you get a bump? Laugh and rub it.

*Listening Games* — What kind of ears must we have to hear in "Hide and Seek"? Clean ears with nothing closing the opening. We must not poke anything in the ear as it might injure the ear so we could not hear well.

*Choosing Games* — What kind of people do we want to choose in games? Those with clean faces and hands, clean hair and teeth, and clean clothes. We want to choose those who are quick and strong and straight and honest.

*A Parade in Town. Playing Soldier* — What does a soldier do to be a good soldier? He eats the right food, eats and sleeps at regular times, bathes, exercises, and stands, walks, and sits straight.

*A Story about Giants. Playing Giants* — Why is the giant so strong? He is tall and big. What will help to make us grow strong and tall and big? Drinking milk and eating fruit and cereal and toast and vegetables.

*Children Excused from Play because of Feverish Condition, Toothache, Headache, Colds, Indigestion, Earache, Broken Arm, etc.*— What shall we do if we are ill with fever or cough? Stay away from other children and have the doctor. What shall we do if we have a toothache? Go to a dentist. Why must we keep the teeth clean and filled?

*A Cold Day* — What kind of plays and games should we choose for cold days?

Additional happenings and observations which may lead to helpful knowledge are a case of hangnails, the recess lunch, sores on the skin, an insect sting, an accident, a case of measles, saving or "swapping" gum, and borrowing the leader's whistle.

*Types and Examples of Physical Activity* — These types are selected because they are particularly suitable for developing the physical power necessary for health and because they are the types which will lead on to other physical activities essential to healthful living.

*Kindergarten Plays* — Fundamental *rhythms* such as running, hopping, and skipping; *representative plays*, such as horses, giants, and soldiers; *dramatic plays*, such as "Little Miss Muffet," "This Is the Way My Dolly Walks," "The Little Birds"; *song plays*, such as "The Mulberry Bush," "Itisket," "I'm Very, Very Tall"; etc.

*Primary Grade Plays* — Fundamental *rhythms* and *representative plays* of the kindergarten and additional new ones; *dramatic plays*, such as "Going Out to Play," "The Happiest Skip," "The Train's Going By"; *song plays*, such as "The Jolly Miller," "Sally, Go Round the Moon,"

"Looby Loo," "Oats, Peas, Beans"; *circle games* such as "Drop the Handkerchief," "Come Along," "Have You Seen My Sheep"; *beanbag and ball plays* of tossing, catching, and bouncing.

*Second Grade Plays* — Combinations of fundamental *rhythms; dramatic plays* such as "The Ginger Bread Man," "The Shoemaker," and "The Elves, the Brownie, and the Cherry Tree"; *song plays*, such as "Carrousel," "Draw a Bucket of Water," "Ten Little Indians"; *folk dances* such as "Dance of Greeting," "Shoemaker Dance," "Chimes of Dunkirk"; *games* such as "Two Deep," "Round the World," tag, "Hill Dill"; *beanbag and ball games* of low organization.

The song play should grow through interpreting the fundamental rhythms, learning the song, and interpreting the song, and should have cumulative action which brings everyone into play. (When a new child is chosen in the play, the first child should not return to the circle, but rather two children should become choosers, and then four, and so on, so that all get into the game with a great deal of action.) Many of the song plays lead into circle games if the children are led to see the possibilities. For instance, in "Farmer in the Dell," when all are in the dell, all may try to break out of the circle as in "Bull in the Pen," and the last one out may become the next farmer. This is a more vigorous play than to have all return quietly into the circle while the teacher chooses a new farmer, and it also produces more whole-hearted, whole-body activity.

Children should be led to teach games they know to the other children. They should be encouraged to

make suggestions for improving the play by such questions as, "Was that fair?" "Should we give everybody a chance?" "How can we play without hurting some one?" "Which way should Mary have run?" "Who can be a helper?" If we want children to play games when they are not with the teacher, we must not only select for teaching the kind of games children play when they are by themselves; but we must train the children to initiate and improve their play without specific direction from us as to what to do next.

*Report of a Health Lesson. Children* (*singing*) — "This is the way we make our ring, make our ring, make our ring; this is the way we make our ring so early in the morning." (Children form a circle. *Mulberry Bush.*)

## PLAYS FOR LITTLE CHILDREN

Little Children Playing Grasshoppers

A Song Play: Go In and Out the Windows

A Folk Dance: The Swedish Carrousel

*Children* (*singing*) — "This is the way we swing our arms, swing our arms, swing our arms; this is the way we swing our arms so early in the morning." (Children swing arms.)

*Teacher* — We shall play a game telling about the things we do before we come to kindergarten. What is the first thing we do after we get up?

*Pupil* — We put on our shoes and stockings.

*Children* (*singing*) — This is the way we put on our shoes, etc. (Children go through motions of putting on shoes.)

*Teacher* — Shall we wash our faces first?

*Children* (*singing*) — This is the way we wash our face, etc. (Pupils go through motions of washing face, neck, and ears.)

*Teacher* — What did we say about washing our arms?

*Pupil* — We should wash way up under the arms.

*Children* (*singing*) — This is the way we wash our hands, etc. (Children go through motions of washing hands.)

*Teacher* — We forgot to do something else.

*Pupil* — We forgot to brush our teeth.

*Teacher* — What do we put on our brush?

*Children* (*singing*) — This is the way we brush our teeth, etc. (Children go through motions of brushing teeth.)

*Children* (*singing*) — This is the way we brush our nails, etc.

*Teacher* — What did we say about our finger nails?

*Pupil* — You said that you were going to look at them this morning. (Teacher looks at John's nails.)

*Teacher* — I think John cleaned his nails this morning.

*Pupil* — We must go to school.

*Another Pupil* — Are you ready to go to school?

*Pupil* — No, we must eat our breakfast.

*Teacher* — Before we eat our breakfast, what is a good thing to drink?

*Pupil* — Milk.

*Another Pupil* — A glass of water.

*Teacher* — Yes. A glass of fresh water. Milk is good at breakfast time.

*Teacher* — Elizabeth, what are you going to eat for breakfast?

*Elizabeth* — Milk and oatmeal.

*Children (singing)* — This is the way we eat our breakfast, etc.

*Teacher* — You know that I am glad that everybody ate his breakfast slowly.

*Pupil* — Now we put on our coats.

*Teacher* — What do we do when it is cold?

*Pupil* — We button up our coats.

*Children (singing)* — This is the way we go to school so early in the morning, etc.

*Children (singing)* — Little Sally Waters, sitting in the sun, weeping and crying for someone to come; rise, Sally, rise, dry your sleepy eyes; turn to the east, and turn to the west, and turn to the one that you love best.

The child in the center of the circle, who represents Sally, chooses one from the circle. This game is continued for about ten minutes and ends in a vigorous general free skip for every one, free formation. The teacher plays the piano, and the children sit on the floor wherever they happen to be.

*Teacher* — Now we shall be very quiet.

*Teacher* — What are we doing while we are sitting down and being quiet?

*Pupil* — We are resting.

*Teacher* — Now we shall play that bowing game. What is the first thing we do?

*Pupil* — We get into a ring.

*Teacher* — I wish some one would explain the game.

*Pupil* — One pupil is in the center of the circle. He bows to some one in the circle. They change places.

The game is started. Mary gets into the ring and chooses Elsie.

*Teacher* — Why was Elsie chosen?

*Pupil* — Because she is a good helper.

*Teacher* — What else do I like about Elsie?

*Pupil* — She is quiet.

*Another Pupil* — She listens.

*Teacher* — There is something else. I can tell by looking at her.

*Pupil* — She stands straight.

*Another Pupil* — She sits on her chair right.

*Teacher* — There is something else. Look at her dress.

*Pupil* — She keeps it clean. She keeps herself clean.

*Teacher* — What makes her look so neat?

*Pupil* — She keeps herself clean, and there are no holes in her shoes.

Game continues. Morris is chosen.

*Teacher* — Notice how nice and clean his shoes are.

*Teacher* — Some one said they would like to play "Farmer in the Dell." Who do you think would make a good farmer?

*Pupil* — Jack.

*Teacher* — Why did you choose Jack?

*Pupil* — Because he is so big.

*Another Pupil* — A farmer grows.

*Teacher* — What makes him grow?

*Pupil* — What he eats.

*Teacher* — What else?

*Pupil* — He drinks milk.
*Teacher* — Is a farmer indoors or outdoors?
*Pupil* — Outdoors.
*Teacher* — How does that help him?
*Pupil* — He gets fresh air all day long.
*Another Pupil* — We get fresh air when we play outside.
The children play "The Farmer in the Dell."
*Teacher* — Do you think it would be good for the children to play all morning and do nothing else?
*Pupil* — We would never learn anything else.
*Teacher* — Now we shall go to our places and rest.
Pupils go to their places and rest.

### Intermediate Grades

*Suggestions for Teacher* — *Habits* of exercise may be formed through having a regular time to exercise and through teaching games suitable for different weather conditions, environment, and number of children.

*Attitudes* and *knowledge* relative to exercise may be developed through child leadership and discussions, surveys, and reports concerning games and sports of other children and other schools and other countries.

*Habits* of cleanliness may be encouraged by provisions for washing after play (rub, shower, or swim); changing clothes after vigorous exercise; opening windows for indoor play (cleanliness of air); emphasizing the necessity of regular water drinking and regularity of evacuations (for internal cleanliness). Children become thirsty when they play hard, and this is the opportunity to teach them what and how to drink.

*Attitudes* and *knowledge* may be developed through discussions and reports about baths, clothing, and ventilation and the tieing up of this information with some vital interest of the child, such as the desire to be a good football or baseball player or a scout.

*Types and Examples of Physical Activity — Girls. Song plays* and *singing games* such as "I See You," "Ritsch, Ratsch," "Knots in May"; *folk dances* such as "Bleking," "Reap the Flax," "Virginia Reel"; *interpretative dances* such as "The Marche Militaire," "Indian Dance," "Scarf Dance"; *apparatus plays* such as climbing, swinging, sliding, and turning on poles, rings, ladders, bars, slides, and swings; *athletics* such as jumping rope, potato race, shuttle relays, basket ball throw; *games* such as those of the Scouts or Camp Fire Girls; *sports* as swimming.

*Boys — Apparatus stunts* as climbing, swinging, turning on poles, rings, ladders, and bars; *athletics* as the standing broad jump, thirty-yard dash, basket ball, far throw, leap frog, football, baseball, shuttle relays, and stunts; *games*, as tag and racing games, dare games as Prisoner's Base, throwing and catching games, Fist Bat Ball; *setting-up exercises* of the Boy Scouts; *sports*, as swimming and skating.

*Plan for Teaching in Intermediate Grades* — In the intermediate grades there must be a transition from the prominent teacher leadership of the lower grades to a planned cooperation in leadership of chosen individuals with the teacher. Since the ability to organize is not shown by the ordinary third grade child,

## PLAYS AND GAMES FOR INTERMEDIATE GRADE CHILDREN

Skipping Ropes

Folk Dancing: Danish Ace of Diamonds

Two Games: Corner Ball and End Ball

organization must be carefully planned by the teacher, working with a few chosen children. As the ability of the group to choose leaders is not yet developed, the teacher will probably have to select those she considers most dependable, telling the group of the qualities which have guided her in her choice. With this small group she should plan the activities for a week, or two weeks ahead, mark the playroom or playground, have materials, such as balls, score sheet, in readiness and arrange team grouping, so that the group as a whole is prepared to get right into the day's activities without unnecessary delay. The members of the class who have requests or suggestions to make should present these suggestions to the leaders who are working with the teacher. The leader's group may be changed at stated intervals. The teacher may read the code of the Boy Scouts, the Girl Scouts,

and the Camp Fire Girls and the Speyer Creed to the children, and then ask the children to formulate a very simple creed to guide the leaders, and a creed to guide the class.

### Rules Formulated by Fourth Grade Boys

What I must try to do.

I. I must be obedient to my leader.
II. I must be honest and fair.
III. I must be loyal to my team.
IV. I must be attentive.
V. I must be helpful.
VI. I must be polite.
VII. I must be trusted.
VIII. I must keep clean in my body, in talk, and in games.

### Rules of Leaders

I. I must help my boys with the work.
II. I must be fair.
III. I must obey the rules of the class if I want my boys to mind them.
IV. I must be kind and not get cross with my boys.
V. I must play a clean game and be clean in my body and in my talk.

### Health Meeting of Third and Fourth Grade Boys

*Purpose:* To formulate a Score Card for Health Records.[1]

*Teacher* — Before we open the meeting, boys, I want to remind you of these rules. (Reference—rules of group written on the board.) I now can give you a copy of them. Every boy can keep one of these copies with him as a reminder of the rules he has agreed to live up to. Remem-

[1] See final chapter.

ber that one of the principal rules is that you are going to try to be helpful and try to help those boys who are trying to help you.

*Chairman* — Now we are going to talk first about the last rule.

*Teacher* — Will you read the part that we are going to talk about?

*Pupil Reads* — I must keep clean in my body.

*Chairman* — Now, boys, how many times a week do you think we ought to take a bath?

*Pupil* — Once a week.

*Chairman* — Why do you take a bath?

*Pupil* — To keep clean.

*Teacher* — Is there any need of keeping clean?

*Chairman* — Yes. How many know the reason for keeping clean?

*Pupil* — It keeps your pores open.

*Chairman* — Why must we keep our hands clean?

*Pupil* — To keep the pores open.

*Teacher* — Why must we keep the pores open?

*Pupil* — The dirt would get into the pores, and the hands could not get air.

*Chairman* — If those little pores are stopped up, you get sick. No perspiration can come out. Why do we want to keep our body clean?

*Pupil* — The pores would close, and body would get no air.

*Teacher* — What comes from those little pores?

*Pupil* — *Perspiration.*

*Teacher* — Perspiration.

*Chairman* — To keep those pores open we should take a bath once a week in winter and twice a week in summer.

*Pupil* — I take a bath every day in summer.

*Teacher* — That is a good habit, Charles.

*Chairman* — Now we are going to talk about face, hands, neck, and ears. I think we should wash our hands at least three times a day—at each meal time. How many times a day should we wash our face, neck, and ears?

*Pupil* — Three times a day.

*Chairman* — We should do it at least once a day, but it is better to do it three times.

*Teacher* — Nelson, do you wash your neck, face, and ears three times a day?

*Nelson* — Yes.

*Teacher* — When do you wash your face, neck, and ears?

*Pupil* — Before breakfast, dinner, and supper.

*Teacher* — What do you wash at those times?

*Pupil* — My face and hands.

*Teacher* — How often do you think the neck and ears should be washed?

*Pupil* — At least once a day.

*Teacher* — What should be washed at least three times a day?

*Pupil* — Face and hands.

*Chairman* — How many times a day should we clean our teeth?

*Pupil* — At least three times a day.

*Another Pupil* — It is best to clean them before every meal.

*Third Pupil* — I think it is best to clean them after every meal.

*Chairman* — If you do not clean your teeth every morning, scum collects on them, and they turn yellow.

Several pupils raise their hands, and the teacher tells them that it is not necesary for them to raise their hands.

If they have a suggestion or a question to ask, they may just stand.

*Chairman* — How many know why we should eat our food slowly?

*Pupil* — If we do not chew our food well, it will not digest.

*Chairman* — How many know why we should keep things out of our mouth?

*Pupil* — Because if the article is dirty, there may be germs on it.

*Chairman* — You should keep pencils, erasers, and your fingers out of your mouth. You should not bite your finger nails because germs are in the dirt that gets under the nails.

*Pupil* — My mother knows a girl who died because she was always biting her nails. She bit a piece of her nail off, and it cut her throat.

*Teacher* — That was a most unusual accident, wasn't it, John? That is not the reason, though, why we must not bite our nails.

*Another Pupil* — When I bite my finger nails, my sister gives me a piece of wood, and tells me to bite on that as it is just as good.

*Chairman* — How many know why we should not breathe with our mouths open?

*Pupil* — We might breathe in germs.

*Another Pupil* — We should breathe through the nose so that the lungs can throw off the bad air.

*Third Pupil* — The nose has hairs in it, and these catch the germs of the air and dirt that we breathe in. This is why we should breathe through the nose instead of through the mouth.

*Another Pupil* — My mother had a cold, and the doctor told her to use an atomizer.

*Teacher* — Perhaps some of the pupils do not know what an atomizer is like.

One of the pupils describes an atomizer, saying that it is a bottle with a rubber bulb attached.

*Teacher* — What does the bottle contain?

*Pupil* — Medicine.

*Teacher* — What will this medicine do?

*Pupil* — It will kill the germs.

*Pupil* — When I had a sty on my eye, I had to take medicine.

*Teacher* — Instead of taking medicine to cure all of these things, what should we do?

*Pupil* — Do something to prevent these things.

*Teacher* — What might have given him that sty?

*Pupil* — He might have scratched it with his finger nail.

*Another Pupil* — Bad blood.

*Teacher* — Boys, what do you say to the plan of taking some of these things that Richard has been talking about and writing them down as we did our other rules. Gustave suggested writing the health laws on the board. What do you say to taking these principal laws of health that we should try to obey and writing them down on the board, then preparing them on paper. Do you know that some of the health clubs have score cards? Suppose we make up one. A score card is used to keep track of all things that you have done during the week or a certain length of time. At the end of the week we want to see how many can say, "I have had one bath this week. I have washed my face, neck, hands, and ears at least once a day." Suppose we put all the things we have decided to do on this

card, then at the end of the week give one point for everything that we have done. If you have washed your hands before every meal, that will count one point. Then we could add the points at the end of the week. We must remember our rule to be honest about it. Suppose Albert gets three points, they will be recorded on the chart on the wall.

The teacher points to the charts on the wall, and the children gather around the chart to examine the scores of their games.

**Health Score Card as Formulated by Class**

1. I have had at least one bath this week.....
2. I have washed my face, hands, neck, and ears every morning.....
3. I have washed my hands before every meal.....
4. I have cleaned my teeth at least once every day....
5. I have remembered to eat slowly and to chew my food well.....
6. I have kept my fingers and other unclean things out of my mouth.....
7. I have not breathed through my mouth.....
8. I have tried to take my setting-up exercises the best I could.....

*Another Plan for a Hygiene Lesson — Third or Fourth Grade* — "Now we're going to march around the room with arms folded. You cannot guess what I'm looking for." All pass teacher. She looks at nails.

*Questions* — 1. "What are the nails for?" Answers brought out *use*. 2. "How should we care for them?"

Answers brought out *care* of nails. Child described box she had, and what she did with it on Saturdays. "Why should we clean them?" Dirt helps disease. "Why should we file or trim nails?" "What will happen if skin grows over moon?" "Who has never bitten nails?" "Is this good to do?"

3. "What are the habits we should break?" Answers brought out *abuses* of nails.

**Writing on Board**

Finger Nails.

I. Use of finger nails.
   1. To keep fingers in shape.
   2. To protect ends of finger.
   3. To pick things up with.

II. Care of finger nails.
   1. Scrubbing for cleanliness and health.
   2. Filling or trimming to make them look better and to make them more useful.
   3. Pressing back skin to prevent hangnails.

III. Abuse of nails.
   1. Biting.
   2. Not keeping clean.
   3. Not pressing back skin.

"All who stood up with good nails this morning, raise hands. How many would like to have a clean nail club so all will be clean by end of term? What shall we do to remain in the club? Aims. Clean nails every morning. How many have finger nail brushes? You can use an old toothbrush. How often should we file nails? How should we check?"

"Twice a week. All nails and teeth."

"I'll choose for assistants to check those who next time can tell most about what we learned today. This outline will help them."

*Report of a Health Officer in Third Grade* — "I take balloons away from the children, and I take stickers. I see that the children do not beat erasers more than they ought to. I see that they do not put crayolas in their mouths, and I see that they do not put pencils in their mouths. I see that they do not chew paper. I stand in the wardrobe to see that the pupils do not throw children's wraps down."

*Hygiene* — Suggested ways for getting interest aroused.

1. *Nutrition* is fundamental to healthy living. All children are greatly interested in their own weight and height. Weighing and measuring should be one of the first opportunities provided for the children in the physical education program, and this should be followed up by comparison with standards of weight for age and height and by periodical record of weight and comparison with a standard of normal gain for the period. Charts for an entire class of children issued by the Bureau of Education of the Department of the Interior, should be used for recording. Children should be encouraged to do better than the average unless the variation is too great in that direction. This may be determined by distribution of fat, relative amount of muscle, and general condition of the organs of the body. Too great deviation from the average

may be checked with red ink on this class room weight record chart, and from this the children may determine relative group averages, or they may make individual graphs showing changes in weight.

2. *Individual Weight Card.* — Each child may also have an individual health card such as the following:

**Individual Health Card**

Name.....

| | |
|---|---|
| Age..... | September<br>October<br>November |
| Height..... | December<br>January |
| Weight..... | February<br>March |
| I should weigh..... | April<br>May |
| I should gain one-half pound every month. | June |

Suggestions from parent.....

This record paves the way for a study of nutrition; what it is, why it is important, and how to improve the nutrition of an individual or of a nation. The possible leading on of this interest is of course almost limitless and should be recognized and encouraged at the opportune time by the experts in other fields of subject matter. The children may make out diet lists and prepare food charts showing the essential kinds of foods for infants, older children, and adults. They may determine quantity, suitable preparation,

and regularity. The study of the care of the teeth, regularity of evacuations, habits of recreation, of work, of posture, and of bathing, and air requirements may come about through their bearing on nutrition.

3. *The Daily Health Record Card* may be the means of starting the interest. For instance, the health requirements of the Girl Scouts, the Campfire Girls, and the Boy Scouts may be reported on, and from this a group may make their own Health Score Card. The items required for this card will start questioning which may lead on to a study of foods, air requirements, bathing, exercise, rest, clothing, and first aid.

### Upper Grades

*Suggestions for the Teacher* — With the beginning of the fifth grade, the club interest should be used more extensively in the organization of the physical training activities and health studies and practices. The organizations of the Boy Scouts, Girl Scouts, Campfire Girls, Woodcraft League, Speyer School Physical Training Classes, and Health Crusaders should be studied, and a modified plan on this order should be arranged and adapted by the girls' and boys' classes.

The Health club formed along the lines of the organizations already mentioned will have a statement of its purposes; pledges, mottoes, slogans, laws, creeds, and songs; officers and groups—the patrol of the scouts, which is a group of eight children from a neighborhood, is a unit which encourages activity

outside school time and makes a link with the home environment. There should be a statement of the form to be followed in meetings; a list of requirements or qualifications and tests for honors; suggestions for badges for each honor; and the requirements should include a daily health record; achievements in plays, games, athletics, dances, exercises, and drills; knowledge and demonstrations of first aid; accident prevention and life saving; ability in child care, knowledge and demonstration of care of the home and of food preparation; ability as an athlete, swimmer, and health guardian. There may be committees for health records; health advertising; health investigation; health programs; physical training activities such as daily schedule, matches, athletic meets, pageants; hygiene topics; receptions and luncheons.

Habits and knowledge of healthful exercise may be attained through regular practices of the ensuing types of exercise. Habits and attitudes concerning cleanliness may be formed through requirements for bathing after exercise and change of clothing for vigorous exercise. The desire for food, water, and pure air comes with vigorous exercise. Interest in the training table of the athlete may be used to establish right habits of diet since the modern training table is nothing more than a well selected diet for a normal individual. Desires for cleanliness, clothing, food, air, exercise, and posture may be awakened by showing the relation to health, appearance, feelings, and social fitness.

*Corrective Exercise: Posture* — Correct and healthful posture in sitting, standing, and walking is an ideal which must be developed through appealing to the desires, through acquainting the children with its value and desirability and through acquainting them with the standards for good posture. This may be done through conversations; reference to attractive people who carry themselves well; pictures such as that of Queen Louise, Napoleon on Horseback, or the Winged Victory; tests for good posture; and records of improvement. A few exercises for stretching and position of the postural muscles may be helpful, but vigorous play and exercise in pure air builds the power which helps one to maintain an erect carriage of the body. Proper clothing is necessary for good posture, and the self-respect that comes with perfect cleanliness and the tonic effect of baths and swimming help posture.

*Types and Examples of Physical Activities — For Girls.* The Girl Scout drill and setting-up exercises, nature study hikes with a study of woodcraft, camping, swimming, skating, athletics, games, folk dances of different nationalities, interpretative dances, apparatus stunts, and social dancing.

*For Boys* — Boy Scout setting-up exercises, walking, cross country hiking and running, swimming, skating, hockey, baseball, athletics, games, and apparatus stunts. Military drill: school of the soldier, school of the squad, country dances (social, to be used for social gatherings of girls, boys, parents, and

teachers, affords opportunity to teach self-respect and courtesy in this particular form of social relationship).

*Plan for a Health Lesson* — Fifth and Sixth Grade Girls.

A. Lesson: The Care of Infants and Small Children.

B. General Aims.

1. To arrive at some practical rules regarding the care of infants and small children which will help the girls in the care of small brothers and sisters, and which will develop an attitude which will carry on to the time when a more mature understanding of infant care is needed.

2. To correct some mistaken but traditional ideas in regard to infant care.

C. Subjects discussed and general rules developed.

1. Feeding.
2. Dressing.
3. Bathing.
4. Habit forming.
    a. Sleep.
    b. Eating.
    c. Play.
    d. Cleanliness.
5. Treatment of baby by others — kissing, etc.

D. Problems.

1. Is it advisable to allow children to "catch" contagious children's diseases? If not, why not, and how are you going to avoid it? If so, why?

2. Why are some children always fretting? What should be done to avoid this?

3. Bring to class a written report of a case of caring for a baby in which you think the person in charge acted wisely

or unwisely, and tell why you think so. If possible, get the baby's age and as much information as possible as to its habits, cases of sickness, and cures.

4. When is the most dangerous time of a baby's life? What precautions should be taken at this time?

E. Review work through lantern slide lesson.

Showing of pictures and informal discussion and interpretation.

*The Club Plan as Elaborated for Upper Grades* — General plan of work of fifth, sixth, seventh and eighth grades.

A. Aims.

1. To encourage further habits of personal cleanliness and good health.

2. To create and develop an interest in, a knowledge of, and a desire for participation in matters of civic health and to furnish opportunities for such participation.

B. General method: Organization of regular physical training classes into health clubs.

1. *Purposes:* the formation of good health habits by the members; the spread of knowledge concerning the prevention of disease; participation in athletics; co-operation with teachers, principal, school nurse, and doctor, and janitor in the interests of health; the improvement of sanitary conditions in school, homes, yards, and streets. Further, it is the aim of the members to stand for clean thought, clean speech, and clean sports.

2. *Officers:* President, Vice-President, Secretary, Assistant Secretary.

3. *Time of meeting:* during physical training period each week.

4. *Permanent committees* — Every member on a committee.

## ATHLETICS FOR UPPER GRADE CHILDREN

Boys Preparing the Pit for Broad Jumping

Girls Practicing the Basket Ball Overhead Far Throw

Boys Practicing the High Jump

## DANCING AND ORGANIZED GAMES FOR UPPER GRADE BOYS AND GIRLS

Social Dancing Out-of-doors. American Country Dance Soldier's Joy

Baseball

## CORRECTIVE EXERCISES

Key Note Position for Good Posture

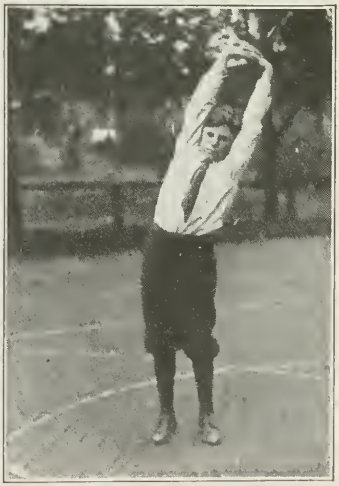
Exercises for Weak Arches

Balancing Exercise for Nervousness

Swimming Exercises for Round Shoulders

Dr. Mosher's Exercise for Menstrual Pain

## POSITIONS IN WALTER CAMP'S DAILY DOZEN SETTING-UP EXERCISES



POSITIONS IN WALTER CAMP'S DAILY DOZEN SETTING-UP EXERCISES

GROUP EXERCISE: ONE OF WALTER CAMP'S DAILY DOZEN

a. Health Record Committee.

(1) *Purpose:* to keep a record showing physical development of the members of the club and to check on and recognize individual health chore records.

(2) *Work:* (a) to take height and weight measure of the members; (b) to take records of physical achievements in regular physical training periods, running high jump, basket ball throw, standing broad jump, chinning, etc.; (c) to check and recognize individual health records; (d) to investigate and report on methods of health record work used in other institutions, e.g., the open air school.

b. Health Advertising Committee.

(1) *Purpose:* to keep the health idea constantly before the pupils of the school in an effort to encourage formation of good health habits; (2) to collect and use material from the English and drawing departments in carrying out purpose, e.g., stories, plays, jingles, slogans, posters, etc.

c. Committee on Investigation of Health Conditions in the School.

(1) *Purpose:* to better health conditions in the school; (2) *Work:* to observe and report on health conditions in the school needing improvement and to suggest measures to be taken in bringing about better conditions.

d. Committee on Investigation of Health Conditions in the Community.

(1) *Purpose:* to acquaint the members of the club with existing health conditions in the community so that they may intelligently work toward co-operating with those who are striving to make the community as healthful a place to live in as possible; (2) *Work:* to investigate and report on homes and premises, alleys and streets, markets, bakeries, dairies, and other stores, open air school.

e. Program Committee.

*Purpose and work:* to prepare and present programs on health subjects of interest to the club.

*Type Program.—Short Talks:* Life history of the fly, and why it should be destroyed, how to destroy the fly, dangers of fly poisons, how to construct a fly trap, and how I earned vacation money.

*Open Discussion*—What can the club do to arouse pupils and the people in the school district to action against the fly?

f. Committee on Physical Education Activities.

*Purpose and work:* to plan with the physical training director (teacher) the work to be accomplished during the physical training periods and in out-of-school-hours and to assist in the carrying out of these plans.

g. Luncheon Committee.

*Purpose and work:* to plan and serve refreshments of a hygienic character at social gatherings of the club.

*Report of a Health Meeting*—Seventh and Eighth Grade Boys.

*Chairman* — The Secretary will read the minutes of our last meeting.

*Secretary* — The meeting was called to order, and it was decided that the club should be called "Walter Camp Club." The club formed to promote good health habits, to take part in athletics, to co-operate with the teacher and nurse, and to form clean habits of speech and sports. Committees were appointed.

*Chairman* — Will some one make a motion to accept the minutes?

The motion is made and carried.

*Chairman* — We shall now have reports from the different committees. The Health Record Committee will tell us of their work.

*Pupil* — (Chairman of the Health Record Committee). Our duty is to weigh and record the weights of the members of the class. We do this once a month. We are to prepare and send home a slip telling how much a child should weigh, and what he does weigh. This slip should be signed and brought back to the teacher. The chest expansion of each member is taken once every week. We also issue health sheets to the members, and the sheets are examined at a given time.

The health sheets are distributed. (Sheets of Modern Health Crusaders.) The chairman of the committee reads the points on the chart, and asks the pupils to cross out several of these.

*Chairman of the Health Record Committee* — Scratch out "I took ten or more slow, deep breaths of fresh air today."

*Teacher* — Why are you taking out that last point?

*Pupil* — We do not think that is needed.

*Teacher* — Why not?

*Pupil* — Some things seem artificial.

*Teacher* — Do you take this in any other way?

*Pupil* — Yes, we get this in our daily dozen and in running.

*Chairman* — We shall now have a report from the Program Committee.

*Pupil* (Chairman of the Program Committee) — We have decided that our work is to prepare health programs of interest to the pupils using various health subjects. The following is a list of subjects suggested by the com-

mittee: "Prevention of Colds," "What to Do at Recess," "Ventilation," "Fresh Air and Heat," "Cleanliness," "Drinking Water," "Food," "Teeth," "Mosquito," "Why Do We Need Fresh Air?" Two members of our committee have prepared talks for this meeting.

*Pupil — "Why We Need Fresh Air."* There are many reasons why we need fresh air. First, we get oxygen. Second, to get rid of carbon dioxide. Third, to carry off the heat of the body. Air is a necessity like food, clothing, and shelter. If you will light a candle and put it under a jar, it will grow dim and soon go out. There is a gas in the air which makes the flame burn. When all this gas has been used up, the candle will go out. If we could not get fresh air, the oxygen in the air would soon be used up, and we would suffocate. You cannot see air, as it is clear. Neither can you smell it, as it is pure. When we breathe in, we breathe in oxygen. When we breathe out, we breathe out carbon dioxide. This gas is a poison in our bodies. It is therefore important that we live much of our lives in the fresh, pure air outdoors. The best air indoors is not as good as the air outside."

*Another pupil — "Ventilation."* When we are dull or irritable, the reason may be that we are breathing impure air. When windows and doors are closed, we must find some way for the fresh air to enter. Making fresh air enter and impure air pass out is called ventilation. I should like to relate an incident about the Indians. The government had divided some land and moved some Indians onto it. They built houses and lived on this land for a short time. When the government agent came around, he found that the Indians had gone back to their wigwams. He asked why they had done so, and the chief replied,

'Too much house.' In the wigwam the air can come in at the bottom and pass out through the top part. I have a diagram on the board showing how a room can be ventilated. Raise the window about five inches and put a glass or board over that portion in such a position that the air that enters will be thrown toward the ceiling. Stoves are most unhealthful for heating purposes. The stove heats the same air over and over again, and that would tend to make it very impure. The house must not be too warm or too cold. There should be a thermometer in each room, and the temperature should be about sixty-eight or seventy degrees. For the next meeting, one of the members of our committee has prepared a talk on prevention of colds and causes of colds.

*Chairman* — Is there any discussion?

*Pupil* — I should think, if we open a window from the top and bottom, that would give good ventilation.

*Another pupil* — That would be a good thing to do during the day, but at night the first plan is better.

*Teacher* — You want action on that report.

*Chairman* — Will some one make a motion to accept that report?

The motion is made and carried.

*Chairman* — We will now have a report of the committee on "Health Conditions in the School."

*Chairman of the Committee* — We have decided that it is the duty of our committee to investigate any conditions that are unhealthful in the school. There is a diagram on the board showing the heating system of the Wyman School. There is a coal bin on the left of the furnace. From six to seven tons of coal are used each day for heating. The janitor has an invention of his own on the side.

There are two ropes, one with a weight attached. This lets out the steam. There are little holes in the furnace through which the heat passes. There are pipes running to the different rooms. When you go into the boiler room there is such a draught that you can hardly stand it. The cold air comes in, and it is sent to the rooms by the ventilating fan. Near the ceiling are little doors which allow the fresh air to come in.

*Another pupil* — In the boys' basement near the boiler room there is a tank that has some gas in it, and this gas purifies the air. The air comes into this tank, and this causes the ozone in the tank to pass to the rooms.

*Chairman* — How big is the ventilating fan?

*Pupil* — It is an eight foot fan, and it makes one hundred revolutions a minute.

*Chairman* — Has any one anything to add to this report?

*Teacher* — Perhaps some of the boys have questions to ask.

*Pupil* — What are the doors for?

*Another pupil* — The four bottom doors are where the ashes may be taken out. The two top doors serve as places to put the coal in.

*Pupil* — What is the engine for?

*Another pupil* — That makes the fan run.

*Pupil* — Some one came into our room, and put a notice on our board that we should not wear sweaters in the room. Several of the boys have on sweaters.

*Teacher* — That is out of order now, but we might follow that suggestion.

*Chairman* — There is a tank on the boiler that holds about five thousand gallons of water. The water is heated and runs through pipes. There is a pump that sends the

water back into the boiler again. In this way, none is wasted.

*Chairman* — Will some one make a motion to accept this report?

The motion is made and carried.

*Chairman* — We will now have the report of the Committee on Investigations of the Health Conditions in the Community.

*Chairman of the Committee* — It is the purpose of this committee to investigate the health conditions in the district surrounding the Wyman. When we find the conditions need improving, we shall suggest how they may be improved. Our committee will try to plan trips to some of the following places: water works, packing houses, storage houses, fish markets, candy and ice cream stores. We will find out about the health laws of the city of St. Louis and the state of Missouri, and see whether the people in the Wyman district are obeying these laws. We received permission to go to the Open Air School, and they explained how it was ventilated.

Pupil points to diagram on the board, indicating the heating system and ventilating system of the Open Air School.

*Pupil* — This is the boiler room with pipes running up to the radiator. There are holes in the wall, and fresh air comes in through these holes. This air is heated. If it gets too cold in the children's rooms, the doors are closed. These doors are made of glass. Each child has two blankets, and they can cover with these. If the boiler breaks, there is a pipe connected with the Wyman that heats this school.

*Chairman* — Will some one make a motion to accept this report?

Motion is made and carried.

*Chairman* — We will now have the report of the Advertising Committee.

*Chairman of the Advertising Committee* — It is our duty to encourage the children through advertisements to follow rules of health. We make pictures, posters, and slogans. We now have several slogans to submit. "Fresh Air Is Healthful," "Let Mr. Clean Be with You the Rest of Your Life," "Do Not Let Mr. Mike Robe Live on Your Lungs," "Let the King of Health Be Your Ruler."

*Teacher* — What do you intend to do with these slogans?

*Pupil* — We should like to take the best ones, and put them in the various rooms.

*Chairman* — Will some one make a motion to accept this report?

Motion is made and carried.

*Chairman* — We will now have a report of the Physical Training and Recreation Committee.

*Chairman of the Physical Training and Recreation Committee* — The duty of our committee is to assist Miss Ryffel in planning work in physical training and to make plans for after school and Saturday hikes, athletics, and games.

General Plan of Work for Week of December Thirteenth to Eighteenth.

*Monday* — Taking of members' weights and chest expansions. Daily dozens.

*Tuesday* — Daily dozen, apparatus work, games.

*Wednesday* — Soccer.

*Thursday* — Daily dozen, high jumping.

*Friday* — Health club meeting.

*Chairman* — Will some one make a motion to accept this report?

Motion is made and carried.

There were five girls present at the meeting of the boys' health club. These girls were invited by the chairman to visit the meeting. One of the girls stood to thank the chairman for the invitation.

*Chairman* — Will some one make a motion to adjourn?

The motion is made and carried.

## Chapter IV

# HEALTH TEACHING AND LANGUAGE

By Margaret M. McLaughlin, A.M.

Language, as used in this discussion, means that part of the school curriculum which includes composition and the technicalities or mechanics of speaking and writing. This latter part of language is also called grammar. On the side of composition, language depends for its content upon the whole field of children's experience; teachers of language can cover the earth without poaching on the preserves of others, and the more varied the material the better.

The teaching of language may be made to vitalize the teaching of hygiene. Let us take an example. We will suppose that the children in the eighth grade have learned in hygiene about the kind of houses we ought to live in, the sort of surroundings we must have for health, the amount and kind of air each person ought to breathe, the size of playground children should have to be healthy. These matters have been dealt with in such a way as to give the children valuable information and perhaps to establish wholesome attitudes in some of the members of the class, but the teacher of hygiene has been compelled to pass to other phases of her subject. Perhaps in hygiene the class spoke of congested parts of the city where wholesome living conditions for children and adults

are lacking. If the teacher of language desires to set for her class a unit of work that is motivated to an unusual degree, she may suggest that they take up some congested part of the city for a more extended study than they have been able to make in the hygiene class. They may read books and newspapers descriptive of such conditions; they may interview social workers acquainted with these districts; they may appoint a committee to investigate personally and report to the class; another committee to compare such part of the home city with a similar district in another city; a third committee to compare the congested district with a more favorable locality in the same city, as to space, buildings, and playgrounds. Some member of the class may be appointed to make a map of the district studied.

What do the children derive from such a series of lessons? We all agree that they are getting fuller and more definite information than they were able to get in the hygiene class; also that a larger number than in the hygiene class are assuming a definite attitude toward such a state of affairs as is found to exist in their city. They may never go further than this. Even so, they have gone a long way toward the reform of such conditions. Give a large number of voters in a city this wholesome attitude, and you build up a public opinion that will respond readily to a demand for municipal reforms. Besides, an intelligent public opinion provides the kind of soil in which ideals are most easily propagated. Prepare the public opinion,

and ideals will come; then those citizens having ideals will be able to accomplish much because so large a part of the public already has the right attitude.

When we speak of language teaching and what it can accomplish for hygiene, we must always bear in mind that children accept information more readily, in fact are more receptive of any kind of teaching from their peers than from adults; it seems to them more vital, and it thus becomes more easily a part of their experience. Besides, let us take into account the effect upon the child who speaks. His mind, suffused with the glow of creative effort, more readily assumes the right attitude toward the subject under discussion than if the material were given him by an older person.

The teacher of language can use health material in many forms: personal experiences, biography, individual reports, reports of committees, pantomimes, health rhymes, health alphabets, charades, plays, allegories, school papers, pageants, constitutions or rules of health clubs, health chores, four-minute speeches, slogans, stories, poems, riddles, menus and letters.

*Lesson Plans in Language* — These lesson plans are suggestive only. The teacher should not use the questions given. She should, however, do what is attempted in these plans: induce free expression from the children and help them to make for themselves an outline for their compositions, whether oral or written. Lesson plan for grade three or four: *Smoke in the Air.*

How many of you have been in the country? What did you notice about the smoke in the country? Where did the smoke come from? What buildings near your home in the city send out a great deal of smoke? (This should bring speeches of one or two minutes from at least half the members of the class; perhaps from even a larger number.) Is the air in the city or in the country better for us to breathe? Why do you say this? How does a great deal of smoke in the air make you feel? Why does breathing smoky air make you feel that way? What can people in the city do to make the air better for us to breathe?

Lesson plan for Grade three or four: *A story to tell to a lower grade.* How many of you ever go into Room —— (the primary room or second grade)? How many of you would like to go down to this room and tell the children a story?

There are several different kinds of story we might tell there. We might tell them one of the stories from our reader or a story from a library book. Suppose, this time, we make up some stories to tell in Room ——. You would like that. What are some of the things we have learned about our eating? (Eating too fast; eating too much; eating candy instead of bread and butter; candy instead of soup at lunch.)

Suppose we make up a story about a little boy who ate too fast. What might have happened to that little boy? (See that the story is a connected whole, telling who the boy was, when he ate too fast and why, and what happened to him. Different children may con-

tribute different parts. One story will suggest another until there are several stories about supposed little boys, or girls, who ate too much.)

We want three or four of these stories told to us so that we can decide which is the best to tell to Room——.

Now suppose we make up a story about a little girl who had the habit of eating too much candy. What may happen to us if we eat too much candy? (Hurts our teeth, keeps us from eating food that makes us grow; we spend too much money on candy.)

Who was Mary? What happened to her because she ate too much candy? What made Mary stop eating too much candy? What happened to her then? How many stories shall we have about Mary? You may call her by any other name you like.

(After two or three good stories have been selected by the class as the best, arrangements may be made with Room ——. A committee may be selected by the class and sent down to ask the children and the teacher in Room —— if they would like to hear some stories by Room —— and when they would like to hear the stories.

*Lesson Plan for Grade Five or Six: The Value of Good Health* — Does it pay your father to be well? What does he lose if he is not well? (Loses his salary; must pay doctor's and hospital bills perhaps.) Does any one else lose if your father is not well? Suppose your father is a physician, does any one else lose when he is not well?

If your father has a store, does any one else lose if he is not well?

What do you lose if you are not well? What does some one else lose if you are not well?

Let us divide ourselves into four groups and see which group can write the best composition about how much a person loses if he is not well. Each group may take any person they like — a father, a mother, a boy, a girl, a doctor, a lawyer, a farmer, or any one else.

(The best way to go at this is, perhaps, to have the members of each group write all the points they can think of and hand these points to one member you will select and arrange them.)

As soon as these compositions are ready, we will read them to the class and vote as to which is the best. Then we can send them to the principal and let him decide which is the best.

(A more scientific discussion of the money value of health should be deferred to the seventh or eighth grade.)

*Lesson Plan for Fifth or Sixth Grade* — Trouble we cause by being careless about our health.

Have any of you seen any one do something that might cause him to be sick? What do children in grade three or four sometimes forget to do that might cause them to be sick? (Fail to wear their hats, to keep their coats buttoned, to wear their rubbers. They may eat candy instead of soup at lunch.) Who will be troubled if these children make themselves

sick? (The mother, the father, the teacher, brothers, and sisters, the children themselves.) Do you think we might help those children by talking to them about being careful? How would you like for us to think up some speeches to make to the children in Room ——? If you will make up the speeches, I will ask the teacher if we may go down and say them.

Each of you select a subject that you would like to speak on. (Help each child to select a subject that he can handle. An outline somewhat like the following may be used: the bad habit; what it may lead to; who will be troubled; what resolve each little boy and girl should make.

We will make these speeches at our next lesson and vote on the three best.

*Lesson Plans for Grade Seven or Eight* — Suppose we have every member of this class in the next two or three days to make a two-minute speech on a health subject. As many as like may have pictures or drawings, or models. Here is a list of subjects. Either take one of these or choose another on which you can speak two minutes and really say something.

1. How my home is heated.
2. A well ventilated street car (personal experiences).
3. A poorly ventilated street car.
4. What I can do to keep our school room clean.
5. One way in which Indians are more fortunate than we.
6. Why I like a furnace better than a stove.
7. The cleaning of our street.

8. What is done with garbage in my street.
9. What becomes of our ashes.
10. Why we should have a good school yard.
11. When we were fumigated.
12. When our house was placarded.
13. Why we should not mix ashes and garbage.
14. When we were quarantined.

(Have pupils suggest other subjects. This is an excellent practice, as it makes them more watchful; besides, they need to learn to state subjects properly and to choose limited subjects.)

*Lesson Plan* — Edit one number of the Health Herald with all departments: editorials; news items; (home, foreign); illustrations (cartoons); stories (health); jokes (health); and limericks (health); health slogans; advertisement (sample: Lost—a bad cold. Finder please send same to the Health Commissioner to dispose of as he thinks best.); parts of health alphabets; different contributors sending different letters, perhaps their initials; "Letters from the People"; "Just a Minute"; sport column.

*A Play for Any Grade* — An allegorical play showing a struggle between Good Health as the hero and Filth or Bad Health for the villian is suitable for lower, middle, or upper grades. In the last it may be very elaborate; in the first, very simple; in the second, of medium difficulty. This play may be easily made into a pageant with a good deal of costume and many picture effects. Many subordinate characters may appear, such as Cleanliness, Mr.

Wise Diet, Sir Tooth Brush, Miss Tooth Paste, the Jester, Sir Glutton, Sir Take It Easy, Mr. Laziness, Mr. Work Hard, and any others the children may care to add.

If the class in hygiene, in attempting to organize a club, has trouble with the statement of the constitution or the rules, a language period or two may well be given to the correct formulation. This makes most excellent language material as it is well motivated.

*Suggestions for Riddles* — I am the thing that you think least about when you have me and that you miss most when I am gone. You drive me away, not because you dislike me, but because you forget me so completely and abuse me so outrageously. I do not leave you in anger, but because you make it impossible for me to stay. When I am gone, you spend much time and money to bring me back. Sometimes I can return; sometimes I cannot. If I do not return, the fault is not mine, but yours; you have driven me away past hope of bringing back. What am I? Health.

There are two of us, another and I, alike only in these four particulars: (1) all men desire us; (2) most men use us recklessly when they have us; (3) all men regret our departure and wish for our return; (4) our names rhyme. The other, without me, is useless to its possessors who often say they would gladly give it up if by so doing they could have me once more. If they lose the other and keep me, they can, if they

like, regain it. When they lose both, they miss me so sorely they often forget they possess the other. What are we? Health and Wealth.

### HEALTH RHYME

Mary had a little cold,
It started in her head;
And everywhere that Mary went
That cold was sure to spread.

It followed her to school one day,
There wasn't any rule;
It made the children cough and sneeze
To have that cold in school.

The teacher tried to drive it out;
She tried so hard, but — Kerchoo-oo!
It didn't do a bit of good
For teacher caught it too.

Other well known rhymes may be parodied in the same way.

### HEALTH ALPHABET

*A* is for appetite, a good thing to own;
It should be of fair size, but not overgrown.
*B* is for body, we must treat it with care;
If it's to be strong, it must have food and fresh air.
*C* is for cold, which you'll never catch
If you are wise and show yourself its match.
Have the children finish this alphabet in their own way.

*Exercises in Language Growing out of Hygiene Lessons* — The following exercises were produced by children in the language periods in the grades indicated. The teachers felt that the material in hygiene lessons would become more firmly fixed as a part of the children's experience if approached from a new point of view. Such exercises accomplish a double purpose: they provide vital matter for language; they fix the material more firmly through the different approach and through the effort of the child to create something of his own.

The exercises are included only to suggest what children of the different grades can do, and they are not intended as models or to be learned by the children or used by them in any way.

*Grade I.* Letter to the teacher of hygiene.

Dear Miss X:

Thank you for telling us how to be healthy.

We are trying to get healthy.

*Grade II.* How to be clean.

I like to clean my teeth.
I like to take a bath once a week.
I wash my face in cold water.
I like to wash my hair ribbons.
I like to keep myself clean.
I wash my hands before I eat my dinner.

*Grade III.* Why I must keep my teeth clean.

I must keep my teeth clean because it is healthy. I must clean my teeth with a tooth brush or with a clean rag. I must pick my teeth with a tooth pick, and not

with a pin or a needle or my finger only with a tooth pick. I must brush my teeth every night and day, morning, afternoon, and evening. If I do not pick my teeth and leave the food that I eat in my teeth it will decay and I will have to go to the dentist and might have to have some teeth filled or have many other things done to them. If you leave your food in your mouth. You know your temperature is 98 degrees and that is very hot for a very hot summer day is 98 and that food will spoil from being in such a hot place as your mouth.

### A Play: Santa Claus's Helpers

*Grade IV.* (Composed by the children).

ACT I

*Place:* Santa Land.
*Time:* A few days before Christmas.
*Characters*: Santa Claus and his pet brownie, Bob.

(When the curtain goes up, Santa Claus is busy putting the last touches on the Christmas toys. Toys are scattered about the room. Chorus of children sings from behind the scenes:)

'WAY UP NORTH

'Way up north in the land of snow,
Ooo-ooo-ooo, ooo-ooo-ooo.
Where the cold winds loudly blow,
Ooo-ooo-ooo, ooo-ooo-ooo,
There lives Santa Claus throughout the year,
Working and singing with right good cheer,
Looking at you and you and you
And you and you and you!

See, he stops and slowly thinks,
Mmm-mmm-mmm, mmm-mmm-mmm,
Nods his head and gaily winks,
Mmm-mmm-mmm, mmm-mmm-mmm.
Takes from his shelf his great big books,
Turns the pages and over them looks.
Yes. He'll call on you and you
And you and you and you!

(Enter Brownie Bob, with a letter.)

*Santa Claus* — What now, Bob? What now?

*Bob* — A letter for you, Santa.

*Santa Claus* — I haven't time to read it. I have only three more days to work, and I haven't nearly finished.

*Bob* — Shall I read it to you?

*Santa* — Yes. Do, Bob, while I paint this hobby horse.

*Bob* — It's from Twiddly. You sent him, with some other Brownies, to help the Smith children this year. Last Christmas they couldn't have their toys because they hadn't cleaned their teeth, nor washed their hands and faces.

*Santa Claus* (looking in his great book) — Yes, yes. I remember. Let's see. There was Peggy Smith, who couldn't have her doll house last year because she went to bed every night without opening her windows. Then there was Harold, her little brother, who wouldn't drink his milk, but cried for coffee. He wanted an electric train. Yes, yes. I remember them. I remember how disappointed they were on Christmas morning. That was why I sent the Brownies to help them. Well! Well! What does Twiddly say?

*Bob* — I'll read it. (Reads.) "Dear Santa Claus. It's almost a year since you sent us down here to help Peggy and Harold Smith. Most of us are trying hard to remind

them when they forget to do things they should. But we are having a hard time. Four of the Brownies you sent, Whisk, Skee, Mop, and Nip, are working against us. When we have the children about to do what they should, one of these four tells them not to do it. The children nearly always do the right thing anyway; but we have to work twice as hard."

*Bob* — What are you going to do about it?

*Santa* — Never mind. I'll attend to them when I get down there. Whew! Those little rascals! But come, we must be packing. Help me carry these to the sleigh.

They go out, their arms filled with toys.

CURTAIN

ACT II — Scene 1

*Place:* The Smith home, Peggy's room.
*Time:* Bedtime.
*Characters:* Peggy Smith, Brownies.

(Peggy is about to get into bed. The curtain rustles, and a Brownie's hand holds from behind the curtain a poster that says: *Have You Opened Your Window?*)

*Peggy* — Oh, bother! That old window isn't opened, and here I'm in bed.

(There is a struggle behind the curtain, after which the sign disappears; and this one appears: *Tomorrow Night Will Do.*)

*Peggy* — It's going to be so cold in the morning that I don't believe I'll open the window tonight. Santa Claus won't mind *one* night.

(She is about to get up, but lies down again. Another sign appears, saying: *Open Your Window EVERY Night.*)

*Peggy* (getting up and opening the window) — I suppose I'd better open it anyway. Santa Claus's note said do everything I ought to if I wanted toys this year.

CURTAIN

Scene 2

*Place:* Smith's bathroom.
*Time:* Bedtime.
*Characters:* Harold Smith, and Brownies.

(Harold has wet his hands and is wiping the dirt on the towel. Suddenly before him appears this sign: *Did You Use Soap?* He is about to wash his hands with soap when another sign says: *You Can Use Soap Tomorrow.*)

(Harold starts off to bed, but again the first poster appears; also this one: *Have You Brushed Your Teeth?* He stops and thinks.)

*Harold* — If I don't wash my hands every night, I won't get my electric train for Christmas. I guess I'd better clean my teeth, too.

CURTAIN

ACT III — Scene 1

*Place:* The Smith's lawn, covered with snow.
*Time:* Christmas Eve.
*Characters:* Brownies, Santa Claus.

(The first number of the *Cisse Noisette Suite*, Victor Record No. 16974, is played. Each time the motif of the music is repeated, two Brownies, who wear health posters on their backs, dance from behind bushes, one on each side of the lawn. Each two, after they have danced to the middle of the stage, dance together; then, after six are out and the music changes, they form a circle. Into this circle the four bad Brownies dance, while the others, shaking their fingers at the bad Brownies, appear to be scolding them. The theme is repeated

twice while this is going on. When it begins again, the rest of the Brownies dance out on the stage, two at a time, until sixteen are on the stage. Then, still to the repeated theme, they form one large double circle and dance around to the music. As they finish, sleigh bells are heard behind the scenes. With much noise, Santa Claus and Brownie Bob appear. The good Brownies flock around Santa; the four hang back.)

*Twiddly* — Oh, Santa Claus, how late you are! Has anything happened?

*Santa Claus* — Hello, everybody! My sleigh is stuck out here. Hello, Whisk! What's wrong with you and Skee and Mop and Nip? (The four bad Brownies have been standing apart, their heads down.) Come over here. Have you helped the children to earn their toys? (They come reluctantly.)

*Skee* — No, Santa Claus. I didn't.

*Santa* — And you, Nip?

*Nip* — I didn't either —

*Mop* — Neither did I, Santa Claus.

*Whisk* — Nor I, Santa, but I'm sorry —

*Santa Claus* — Then what have you been doing if you weren't helping the children to earn their toys?

*Mop* — We — we tried to m-make the children do the wrong things.

*Whisk* — But we're very sorry, Santa —

*Santa* — Did they do wrong, as you told them to?

*Twiddly* — No, they didn't, Santa Claus. They wanted so much to be able to tell you they've been good that in the end they did right.

*Santa Claus* — Well, then they deserve their toys. Come on, everybody, and help me get my sleigh out of that snow drift. My reindeer are tired waiting.

(*They go out.*)

CURTAIN

Scene 2

*Place:* The Smith's nursery.
*Time:* Christmas Eve.
*Characters:* Santa Claus, Brownies, Peggy and Harold Smith.

(Peggy and Harold are seated in the nursery, waiting for Santa Claus.)

*Harold* (*sleepily*) — Peggy, I'm afraid. Let's go to bed.

*Peggy* (*bravely*) — Oh, Silly! What's there to be afraid of? He'll be here any minute now.

*Harold* — I know, but you know we're not supposed to sit up, are we?

*Peggy* — Well, this is the first time, and I want to see him, because — all year I've tried — so — hard. But I really am a little afraid; not much, though —. What was that?

(Santa Claus bursts into the room.)

*Santa Claus* — Hello, folks, Merry Christmas! May I leave some toys here?

*Children* (*jumping up and talking together*) — May you? Do we really get them this year. What did you bring me?

*Santa Claus* — Here, here! One at a time! This is for you, Harold, and this; and this for you, Peggy. (Takes toys from bag, while children exclaim "Oh!" and "Ah!" as they see each one.)

*Children* — Oh, Santa Claus, thank you so —

*Santa Claus* — Tut, tut! Don't thank me. You worked for them, didn't you? If you thank anybody, you ought

to thank these good Brownies. Oh, Twiddly! Come in here!

*Peggy* — What's this, Santa Claus?

*Santa Claus* — Why, these are my Brownies, who have helped you to remember the things you forgot to do last year.

*Peggy* — Oh, then there really was somebody holding a sign beside my window every night.

*Harold* — And some one in the bathroom, too.

*Peggy* — Sometimes I thought I just imagined it, but Harold said —

*Harold* — And beside my plate on the table, too. I told you there was, didn't I, Peggy?

*Peggy* — Yes. But I didn't know whether to believe it or not. Then we ought to thank the Brownies.

*Nip* (*ashamed*) — Not all of us, Peggy. We — some of us didn't — help. But we're sorry, now. And I suppose Santa Claus won't let us stay down to help anybody next year, either.

*Peggy* — Oh, Santa Claus, I'm sure they didn't mean to be bad. Can't they stay?

*Santa Claus* — Not this year. But, if they work as hard as they can up in Santa Land for a year, I might send them down again sometime for your sake. But I must be going now, or the other children won't have their toys. Be good children, and don't ever forget again what my Brownies have helped you to remember. Good-bye!

*Children* — Good-bye! Good-bye! Good-bye, Santa Claus! Good-bye, Brownies! We won't forget, Santa Claus!

(Santa Claus and his Brownies go out. Sleigh bells are heard outside.)

*Harold* — Oh, Peggy, look! There they go across the lawn.

(They stand at the window, waving and talking. While they stand there, chorus of children sings from behind the scenes the last verse of *'Way Up North:*

Crack! He snaps his whip so gay,
Jingle-ingle-ing, jingle-ingle-ing,
Starts his reindeer on their way,
Jingle-ingle-ing, jingle-ingle-ing.
He will come to every house,
Children be still as a little mouse,
Then on Christmas morn we'll gaily,
Gaily clap and sing.

CURTAIN

## HEALTH RHYMES

*Grade VI.*

Old King Cole was a healthy old soul,
A healthy old soul was he.
He called for his bread, and he called for his milk,
He called for his potatoes three.
This was what made him a healthy old soul!
A healthy old soul was he.

*Grade VII.*

Drink milk each and every day,
Then go out and have your play;
That makes healthy girls and boys.
Health is one of life's great joys.
Little Tommy Tucker
Sings for his supper.

What shall he eat?
White bread and butter.
Why shall he eat it?
Because it's good and clean.
He wants to be a nice fat boy,
And not so thin and lean.

### Subjects Classified by Grades and Grouped About Problems

The same thing should be said of the following subjects that was said of the lesson plans; they are suggestive only. Each teacher must decide which of the subjects are suited to her pupils. She may transfer subjects from one grade to another; she may change the wording; she may take entirely different subjects. A very wide choice is offered so that if the teacher wishes to use these lists, she will not feel at all restricted.

The subjects are classified as to grades, which classification may be changed, and are grouped about a number of everyday problems.

*Problems About Which Subjects for Grades One and Two are Grouped* — 1. Keeping our persons clean. 2. Keeping our surroundings clean. 3. Exercising ourselves properly. 4. Eating our food properly.

*Problem 1.* Keeping our persons clean.

1. Why we want to be clean. 2. Why we must keep our hands clean. 3. Why we should take care of our nails. 4. The kind of children we like to play with. 5. Why we should not put pencils in our mouths. 6. Why we should not use each other's pencils. 7. Why I must not rub my

eyes. 8. Why I should brush my teeth. 9. Why we must take baths often. 10. Why we must keep our faces clean.

*Problem 2.* Keeping our surroundings clean.

1. Helping Mother keep the house clean. 2. Helping to keep our schoolroom clean. 3. Helping keep the school yard clean. 4. How our eyes help us to keep clean. 5. How our noses help us to keep clean.

*Problem 3.* Exercising ourselves properly.

1. The kind of games we should play in warm weather. 2. The kind of games we should play in cold weather.

*Problem 4.* Eating our food properly.

1. Why we should not eat fast. 2. What I told my big brother about eating fast. 3. Why I should go to the dentist. (Most of the above subjects may be used for class discussion, each pupil contributing something.)

*Problems About Which Subjects for Grades Three and Four are Grouped* — 1. Value of health. 2. Surroundings that may injure us. 3. Keeping ourselves clean. 4. Keeping our surroundings clean. 5. Exercising ourselves properly. 6. What food is suitable for children. 7. What children can do for health.

*Problem 1.* Value of health.

1. How a sanitary school pays the community. 2. Why we need to be healthy. 3. Why boys should not smoke.

*Problem 2.* Surroundings that may injure us.

1. Why we should have a good school yard. 2. Why dust in the air is bad for us. 3. Why smoke in the air is bad for us. 4. Why there is more dust in the air than should be. 5. Why there is more smoke in the air than should be. 6. Why too high a desk is bad. 7. Why too low a desk is bad. 8. Why too low a seat is bad.

9. Why too high a seat is bad. 10. How we can avoid dust in sweeping. 11. How I sweep my room. 12. Why we need a well lighted schoolroom. 13. Why we need a well ventilated schoolroom. 14. Why Mary went to sleep in school.

*Problem 3.* Keeping ourselves clean.

1. Proper use of a tooth brush. 2. How often we should bathe. 3. Why we should keep our hands and faces clean. 4. Why we should clean our teeth and gums thoroughly at night. 5. What the long mirror in the hall has done for our school.

*Problem 4.* Keeping our surroundings clean.

1. Keeping our schoolroom clean. 2. Keeping our yards clean.

*Problem 5.* Exercising ourselves properly.

1. Why play makes us healthy. 2. How we should play. 3. Where we should play. 4. What we should play. 5. How we should stand. 6. How we should walk.

*Problem 6.* What food is suitable for children.

1. What we should have for lunch. 2. Why our food should be clean. 3. Why children should not drink tea or coffee.

*Problem 7.* What children can do for health.

1. What third graders can do for health at school. 2. What fourth graders can do for health at school. 3. What third graders can do for health at home. 4. What fourth graders can do for health at home.

*Problems About Which Subjects for Grades Five and Six are Grouped* — 1. The meaning of health. 2. The value of health. 3. The effect of surroundings on health. 4. The effect of clothes on health. 5. The

effect of good health upon us. 6. Different factors that affect health. 7. How children can promote health of others. 8. Health and food. 9. Work of health department.

*Problem 1.* The meaning of health.

1. Explain what is meant by health. 2. How we know when we are tired. 3. Is being tired bad for us?

*Problem 2.* The value of health.

1. Who suffers if a person does not keep himself well? 2. How my good health saves the city's money. 3. How my good health helps the community. 4. How my good health helps my family.

*Problem 3.* The effect of surroundings on health.

1. What are the qualities of a good school site? 2. Why the site of a school building should be selected with care. 3. How large should our schoolrooms be? 4. Why we need fresh air. 5. Why we should exercise in pure air. 6. What our city can do about smoke. 7. How does one's house affect his health? 8. Why is it not good to have one's room crowded with ornaments? 9. Why we should keep the premises at home clean. 10. Why we should see that the school premises are kept clean. 11. Why it is not good to mix ashes and garbage. 12. What is done with the garbage on the streets? 13. A country child has a better chance to be healthy than a city child. (Debate.)

*Problem 4.* Clothes and health.

1. Explain what you mean by comfortable clothes. 2. How we must prepare ourselves before we go out of doors to play. 3. Why should we not wear our clothes tight? 4. Why should boys wear heavy clothes and girls light clothes?

*Problem 5.* Effect of good health upon us.

1. How rapidly a child should grow in height. 2. How rapidly a child should grow in weight. 3. Do health and promotion have anything to do with each other? 4. Why Johnny was not promoted. (Story.)

*Problem 6.* Different factors that affect health.

1. What recreations do you enjoy most? 2. What are the recreations of your family? 3. What habits help health? (A few of many may be chosen for discussion for each pupil.) 4. Why muscles are sometimes flabby. 5. How much water do we need to drink each day? 6. What do we mean by keeping the skin alive? 7. Why should we breathe through the nose? 8. Why is a vacuum cleaner better than a broom? 9. The boy who was too sleepy to bathe and what happened to him. (Story.) 10. The girl who gave time to comfort and not to health. (Story.) 11. How correct habits of study may help a pupil's health. 12. How our teachers help us to be healthy. 13. How our parents help us to be healthy. 14. How our mothers and teachers can help each other to make the children stronger.

*Problem 7.* How children can promote health of others.

1. What fifth graders can do in the other grades for health. 2. What sixth graders can do in the other grades for health. 3. What we can do if our alley is not kept clean. 4. What are some good subjects for health plays? Can we give plays to the other rooms? 5. How to take care of the baby. (A great many subjects will grow out of this, such as holding and carrying the baby properly, feeding the baby, keeping the baby clean.)

*Problem 8.* Health and food.

1. What kinds of food we should eat. (This will bring out the subject of balanced diet. Home economics

and English teachers may cooperate here to advantage.) 2. How I learned to like tomatoes. 3. What is a one-sided diet? 4. Too much food. 5. Too little food. 6. Why we are sometimes hungry when we have had enough to eat. 7. Food and thinking. 8. Why we should chew our food well. 9. Why I stopped drinking coffee.

*Problem 9.* Work of the health department.

1. What a health department is. 2. What the health department does for us. 3. What we can do for the health department. 4. What the health department did at our house.

*Problems About Which Subjects for the Seventh and Eighth Grades are Grouped* — 1. The value of health to the individual and the community. 2. Work and health. 3. Fatigue and health. 4. Climate and health. 5. Surroundings and health. 6. Government and health. 7. Relation of civilization and care of health. 8. What can pupils of the seventh and eighth grades do for health?

*Problem 1.* The value of health to the individual and the community.

1. Show that the money value of health is not the most important value. 2. Why are healthy children easier to teach than sickly children? 3. How may the health of children be an asset or a liability? (There are other assets and liabilities than those relating to money.) 4. Compare cost of playgrounds and hospitals. 5. Compare cost of playgrounds and reform schools. 6. How does keeping children well save money for the city? 7. How much is a person's health worth in money? 8. Can one be a good citizen if he neglects his health? 9. The health of a nation

is more important than a big army. 10. The health of a nation is more important than a big navy. 11. The health of a nation is more important than great wealth.

*Problem 2.* Work and health.

1. Why should we work when we work and play when we play? 2. What is dawdling? (Give some examples.) 3. What happened to me when I dawdled. 4. What is meant by relaxing? 5. Is there any relation between home study and health? 6. Effect of early employment on health of children. 7. Factories and health. 8. What occupations assist health? 9. What occupations injure health? 10. What can be done to render some occupations (be specific) less unhealthy? 11. Why some persons who have dangerous occupations cannot give them up.

*Problem 3.* Fatigue and health.

1. What is fatigue? 2. When is fatigue not a dangerous sign? 3. How long one should be able to study without fatigue. 4. How one may become fatigued in school. 5. What I do when I feel tired. 6. Why we should have a teacher's room at our school. 7. What the health of the teacher means to the pupils. 8. What the health of the pupils means to the teacher. 9. How teachers and pupils may help each other as to health. 10. What too large classes do for teachers and pupils as to fatigue and health. 11. How may an ounce of prevention be worth a pound of cure as to health? 12. Tell a story of an ounce of prevention. 13. Freedom in the schoolroom and effect upon health. 14. How going to the picture show very often may injure health.

*Problem 4.* Climate and health.

1. Influence of climate on health. 2. Extra care as to health to be taken on account of climate. 3. Compare

health at the tropics and at the poles. 4. Why the temperate zone is most healthful. 5. Dangers we must avoid in winter. 6. Dangers we must avoid in summer.

*Problem 5.* Surroundings and health.

1. Reasons for keeping our homes clean. 2. Reasons for keeping our school clean. 3. Reasons for keeping our town clean. (These subjects should be discussed much more intensively than in the lower grades.) 4. What our newspapers can do in helping to keep the town clean. 5. Drinking fountains instead of drinking cups. 6. What are the best methods of ventilating homes? 7. What are the best methods of heating homes? 8. Why it is good to sleep out of doors. 9. In what ways were the Indians more fortunate than we? 10. How a thickly settled community threatens health. 11. How a thickly settled community may benefit health. 12. Dangers that threaten health in the country. 13. Dangers that threaten health in the city. 14. Compare congested parts of the city with other parts as to places to play. (Map.) 15. Compare number of people to block in crowded part of city and in other parts as to infant mortality, truancy, etc.

*Problem 6.* Government and health.

1. Compare the city and the country as to a health department. 2. What do we mean by health supervision in the schools? 3. Why should every child be examined when he enters school? 4. What does the city government do for us in the way of health? 5. What is quarantine and how it protects us. 6. Our duty in case of quarantine. 7. Vaccination. 8. Laws in your city or town concerning smallpox. 9. What the city does to protect health. (Discuss sewers and sewage. Compare other cities with your own. Discuss drinking water and man-

ner of providing and purifying. Make a map of the city, showing reservoirs, etc. Two or three valuable units of composition, oral and written, can be furnished by this subject.) 10. Discuss street cleaning department of city, including inspection. 11. Tenement houses in your city. 12. What should be done about our tenement houses? 13. Compare them with tenement houses in other cities. 14. Model tenement houses. 15. Management of the city playgrounds. 16. Disposal of garbage in your town or city. 17. Disposal of garbage in other cities. 18. The United States and the Panama Canal (Gorgas and his work). 19. France and the Panama Canal. 20. Work on yellow fever, typhoid fever, and malaria.

*Problem 7.* Relation of civilization and care of health.

1. Laws of health in early times. 2. Compare treatment of epidemics now and in early times. 3. Black death in England in the 17th century. 4. Treatment of lepers in Bible times. 5. Treatment of lepers in the Middle Ages. 6. Treatment of lepers now. 7. History of the tooth brush. 9. How we can keep the helps to health civilization has brought us and avoid the dangers it has brought. (This should be broken up into specific subjects.)

*Problem 8.* What can pupils of the seventh and eighth grades do for health?

1. What habits of health ought to be fixed by the pupil who reaches the seventh grade? The eighth grade? 2. What can seventh and eighth grade pupils do for the lower rooms as to health? (Through plays, four-minute speeches, rhymes, riddles, stories, etc.) 3. Can pupils in these grades plan a health campaign? 4. What can pupils in these grades do for health in the home? 5. In the school? 6. In the community? 7. In the city?

*Subjects Especially Suited to Composition Units* — 1. The skeleton; its formation, its uses, how we may abuse it.

2. The muscles; their uses, their treatment, their food, their growth, their power.

3. Tobacco; the extent of, and the cost of, its use, the benefits derived from it, its effect upon growing children, laws concerning its manufacture, laws likely to be passed in the future.

4. Liquor; its use, abolition of its manufacture in this country, history of that abolition, its abolition in other countries, its cost, its effect on mind and body.

5. Comparison between old schools and new as to health requirements, buildings, and pupil, etc.

6. Opium; its growth, its use, its abuse, the growth of the opium trade, its effect upon China, drug laws in this country, reason for them and their effect.

7. Children in industry; kind of work they can do without injury to themselves; wages; etc.

8. Mothers in industry; numbers, kind of work, effect upon family life.

9. Child labor laws; reasons for, effect, factory system in South.

10. Compulsory education laws; reasons for, effect upon health of children, reasons for children remaining in school.

11. A national health department with a cabinet member at its head.

12. What life insurance companies have done for health.

13. The Life Extension Institute; what it is, what it tries to do.

*Language Work Based on Magazines and Papers* — 1. Take any magazine and look through the adver-

tisements. Select all that refer in any way to health. Count them. Decide which ones advertise something valuable, something harmful, something useless. (This exercise may cover many magazines, each member of the class taking a different magazine. The subject may be divided by having some members select useful articles; others useless, others harmful.)

2. Have class discuss publicity in promoting health in school. For basis of a discussion or a summing up, see *American City*, August, 1920, pp. 170-4.

3. Discuss rats as carriers of disease; the fight being made against them with regard to bubonic plague and other diseases. For some information on subject, see F. G. Egbert's article, *American City*, August, 1920, pp. 146-7.

4. Value of municipal dairy inspection. See article by V. Craster, *American City*, August, 1920, pp. 172-5.

5. Vigilance for health of school children. See article concerning Houston, Texas, in *American City*, August, 1920, pp. 213-14.

6. What Uncle Sam is doing for mothers and babies, *Red Cross Magazine*, May, 1920, pp. 7-10 and 70. (Sheppard-Towner Bill.)

7. How we can use newspapers to improve health and for health teaching. See article by B. L. Carlton, M. D., *American City*, July, 1920, pp. 56-7.

## Chapter V

## EDUCATION IN HEALTH IN READING

By Genevieve Apgar, A.M.

Interest and information are reciprocal; interest leads to the acquiring of information, and added information brings added interest. Add to these the stimulative power of the emotions, as found in wholesome admiration of an ideal, and there are present the fundamental factors for setting up a point of view or developing an attitude.[1] Interest in the health of the individual or of the community may be aroused, information may be obtained, ideals may be presented through the ever-present, basic subject in the elementary curriculum — reading. Moreover, health education may be given through that phase of reading to which the schools are at present giving a deservedly greater attention — silent reading. Reading for comprehension of the whole, or for selection of main facts, or for selection of particular facts bearing upon the solution of a given problem may well have for its content information about health,— its value for the individual and for the community, how it is secured, and how it is preserved. Facts of health and interesting matter regarding health-heroes may form the content of occasional oral reading.

The plans here suggested assume that books containing suitable material may be provided for the

[1]See Chapter 1, page 1.

children in the class room either through supplementary books owned by the school, or through a loan collection from the public library. The books listed in this chapter are merely suggestive of what may be used. Each teacher, if she carefully examines the resources open to her, will be able to make an adequate list of books and articles and add to it from time to time. The teacher should encourage pupils to report to the class everything they find in their general reading — book, story, article — that is of interest in connection with community health, and with individual physical fitness for living.

*Health Clippings* — Have the children bring to class articles, short or long, clipped from newspapers and magazines, to read to the class. The clippings will deal with sanitation, the water supply, prevailing disease, etc., in the home town, the state, or the nation. The oral reading should be accompanied by a statement of where the clipping was found and why it was chosen. If the class judges the clipping worthy of preservation, it should be put in the hands of a committee appointed to care for it. The committee may compile a scrapbook, or better than that, a portfolio. In the latter case, they will paste the clippings on pieces of pasteboard of uniform size, to be kept in a case that may be made in the art work. These individual pasteboard forms are more easily handled for future reading than is a scrapbook.

This work furnishes the child a real motive for oral reading since he is presenting to his classmates some-

thing of his own selection with which they are not already acquainted, and which has content of real value. Moreover, the work furnishes training in going through papers and magazines for matter of significance on topics of public interest.

*Health Knowledge* — Questions to be answered from reading may be set by the teacher. Finding the answers calls for comprehension of what is read, and for ability to select the facts that definitely answer the questions. The questions should be written upon the board, and the books, or magazines, to be used in finding the answers should be both *listed* and *supplied* for the children. The chapters containing the answers may be indicated at the judgment of the teacher, but the exact page should not be given, as a rule, for part of the value of the work lies in the exercise of the judgment in selecting from abundant material the facts desired. Instead of a question, a direction such as the following may be profitably used: Find three facts regarding the relation of sleep to health. Find two ways in which Pasteur benefited society.

*Health Stories* — Stories showing that physical fitness is necessary for achievement. The children may read in their study time stories of strong, brave men and women — stories of achievement. The children's aim should be (1) to read as many stories as possible, (2) to note (a) the character of the hero in each, (b) the character of his achievement, and (3) to consider what physical preparation made the

achievement possible,— to consider the relation of health to strength and endurance. The children's notes should be made somewhat as follows: 1. Name of story: How the Medal Was Won; 2. Hero: John Brown, a college student; 3. Achievement: the rescue of a child from drowning; 4. Physical Preparation: strong lungs, skill in swimming. Besides the evident directing of the children's thoughts to physical fitness, the first two aims given above should lead to habits of rapid silent reading, since each child will be stimulated to read as many stories as possible; and to a power of selecting essential points in a story.

Another way of handling these stories is to assign a different story to each one of a group for the purpose of oral reproduction before the class. The reproduction must be kept brief by leading the children to give only the *essentials* of the story,— a clear, brief statement of *what the hero did.* This should be followed by a clear, pertinent statement of what is required by way of physical condition for the performance of such an act. Still another method is to allow the child to select from a story a particularly interesting part, or parts, for a two minute oral reading before his class.

*Health Heroes* — Biography makes a strong appeal to children. Children are interested in men who *do* things. Motivation is, then, easily supplied for reading about a man who through painstaking endeavor makes healthy living possible in Panama; about a man who by his knowledge of science relieves

human suffering; about a man who by self-sacrifice founds a home where sufferers from diseases of the lungs may be relieved or cured; about a woman who demonstrates that cleanliness will bring comfort, relief, and safety to a war hospital; about a man who brings about the cleaning of the streets of a large city; about a man who, though beset by disease, courageously works, and wins for himself a niche in the hall of literary fame. A suggestive list of health heroes is given below.

| | |
|---|---|
| Gorgas, Gen. W. C. | Hero of Panama. |
| Grenfell, Dr. Wilfred T. | Hero of Labrador. |
| Lister, Joseph | Hero of safe surgery. |
| Nightingale, Florence | Heroine of Crimean War. |
| Pasteur, Louis | Hero of disease prevention. |
| Roosevelt, Theodore | Hero of vigorous life after sickly childhood. |
| Stevenson, Robert Louis | Hero of courageous living. |
| Strong, Dr. Richard Pearson | Hero of America's relief work in the World War. |
| Trudeau, Edward Livinston | Hero of Saranac, N. Y. |
| Waring, George Edward | Hero of New York's sanitary work. |
| Jenner, Louis | |
| Reed, Major Walter | |

Topics on which material is to be gathered from the books supplied should be adapted to the age of the pupils. Such topics as the following may be used:

1. Nationality.
2. Birth: place and time.

3. Home.
4. Preparation for his work.
5. Achievement.
    a. What it was.
    b. What it meant to the world.
    c. What it cost him.
6. Anecdotes about him.
7. How the present generation can show its gratitude.

The best results are obtained by grouping the children in committees, three or four in a group, and assigning to each committee a topic, or division of the hero's life. Objective material should be used as much as possible by the children when they report to the class the results of their reading. A picture of the hero should always be used. This may be cut from a magazine or newspaper, or obtained from public libraries, which generally have portraits mounted on cards for circulation.

*Program Making* — Initiative, as well as a sense of responsibility, may be developed in 7th, 8th, and 9th grade children by setting them at work to make out a program to be presented to their class or to two or three rooms at a joint assembly. A *health hero*, like Pasteur, may be the general subject, presented under the program heading, "What We Owe to Pasteur." A general topic, like *three essentials for individual health* — fresh air, proper food, sleep, for instance,— may be presented under the program heading, "Wonder Workers." A general topic, like *health ideals* — standard weight, chest girth, muscular

power, endurance, etc.,— may be presented under the program heading, "A New Type of American."

The work consists in deciding upon the hero, or the three essentials, or the ideals; finding interesting material to be read aloud by good readers; and arranging the numbers on the program in appropriate order. Tableaux and dramatization may enter into the program. The teacher's part consists in providing books for the children's use, arousing the children's interest, being friendly counselor at each step of the way, and placing the stamp of approval upon the program before it is presented.

*Health Maxims* — The following maxims, and others like them, may be written upon the board, and be used for five or ten minute exercises: (1) in clear oral interpretation, (2) in accurate articulation, and (3) in the cultivation of a bright, lively tone.

1. Happiness comes from health, not from money.
2. Nine-tenths of the "blues" come from a bad liver and lack of exercise.
3. Your nose, not your mouth, was given you to breathe through.
4. Shoes that do not fit cost much in the long run.
5. Keep the body clean by sun, air, and water bathing.
6. Get plenty of sleep.
7. Cultivate a cheerful and peaceful frame of mind, and learn to control enervating emotions, such as worry, fear, discontent, and anger.
8. Eat moderately of substantial foods.

9. Drink water freely.

10. Wholesome exercise out of doors is better than drugs to cure sleeplessness.

11. Be fair to yourself in standing, sitting, rising, walking, breathing, resting.

12. Self-respect tends to brace a man's shoulders and straighten his spine.

13. Don't worry. "Seek peace and pursue it."

14. Don't hurry. "Too swift arrives as tardily as too slow."

15. Sleep and rest abundantly. "The best physicians are Dr. Diet, Dr. Quiet, and Dr. Merry Man."

16. Spend less nervous energy each day than you make. "Work like a man, but don't be worked to death."

17. Be cheerful. "A light heart lives long."

18. Avoid passion and excitement.

19. Associate with healthy people. "Health is contagious as well as disease."

*Health Proverbs and Quotations* — 1. Health is better than wealth.

2. I would rather be healthy than rich. (From the Latin.)

3. He who has health is rich and does not know it. (From the Italian.)

4. Health and intellect are the two blessings of life. Menander.

5. In nothing do men more nearly approach the gods than in giving health to men. Cicero.

6. Look to your health, and, if you have it, praise God and value it next to a good conscience; for health is the second blessing that we mortals are capable of,— a blessing that money cannot buy. Isaac Walton.

7. Good health and good sense are two of life's greatest blessings.

8. Rich in heaven's best treasures, peace and health. Thomas Gray.

9. "Reason's whole pleasure, all the joys of sense,
Lie in three words,—health, peace, and competence."
Alexander Pope.

10. "Health is the vital principle of bliss,
And exercise of health." James Thomson.

11. "Better to hunt in fields for health unbought
Than fee the doctor for a nauseous draught.
The wise for cure on exercise depend;
God never made his work for man to mend."
John Dryden.

12. "O sleep, O gentle sleep, Nature's soft nurse." William Shakespeare.

13. "Sleep, sore labor's bath,
Balm of hurt minds, great nature's second course,
Chief nourisher in life's feast."
William Shakespeare.

14. "Get health. No labor, pains, nor exercise that can gain it must be grudged." R. W. Emerson.

15. "To train the mind and neglect the body is to produce a cripple." Plato.

16. "A vigorous health and its accompanying high spirits are larger elements of happiness than any other things whatsoever." Herbert Spencer.

17. "To cure was the voice of the past; to prevent is the divine whisper of today." Kate Douglas Wiggin.

18. "In any man or woman, a clear, strong, well-fibred body is more beautiful than the most beautiful face." Walt Whitman.

19. "For the long breath, the deep breath, the breath of the heart without care —
I will give thanks and adore thee, God of the open air." Henry Van Dyke.

20. "He lives most life whoever breathes most air." Elizabeth Barrett Browning.

21. "All means that conduce to health can neither be too painful nor too dear to me." Montaigne.

22. "The best cough syrup ever prescribed for weak lungs is a ten minutes' practice of deep breathing." George L. Beardsley.

*Plan for Reading Lesson* — Story of the Red Cross. (In pamphlet form—Nov. 1917.) (To be studied in December.)

*Teacher's aim.* To lead pupils to appreciate the health work of the Red Cross, and to arouse in them a desire to help in this great work.

*Pupil's aim:* To gain information concerning the growth and work of the Red Cross.

*I.* (*Previous day*) *Assignment of next day's lesson:* Have posted in the class room the circular announcing the sale of Christmas seals. Have some pupil read it aloud. Awaken interest in the article to be read by some such questions as the following: Why does the Red Cross want you to buy seals? What other uses does it make of its money? How long has the society been doing this work? Would you like to know? What else would you like to know about this society? (After questions are suggested by the class, the pertinent ones should be selected, organized, and listed on the board. The teacher should add any the pupils fail to ask. She should then hand the pamphlets to the

pupils, telling them that the answers to most of their questions may be found therein. In order to save a useless expenditure of time and energy, the teacher should point out to the class the questions that are not answered in the article.)

Questions like the following may be listed: When was the first Red Cross Society organized? Whose idea was it? Tell how the idea originated. When did America feel the need for such a society? When was the American Red Cross established? Through whose efforts mainly? Give three specific instances where the Red Cross gave material aid in times of *peace*. Tell three things the organization is doing to promote health. Give two means by which the Red Cross secures funds to carry on this work.

*II. Pupil's Preparation:* Pupils read the selection silently for the information desired.

*III. Recitation:* The lesson should be devoted to an oral report and discussion of the above. (This lesson may be followed in the civics class by one on state or city laws made to promote health.)

*Primary Grades* — In a primary room the studies are so closely related that the subjects considered in the morning talks and the various other experiences of the group are also the topics for the reading lessons. The health talks have therefore furnished the subject matter for some of the reading. Because of this correlation, it is necessary to include the other studies in the following discussion of reading.

Frequently the first conversations are about "Mother's Work" and her efforts to keep the children healthy and their home and clothes clean. After

the talk some children play in pantomime the things mother does, while the others guess what was acted. These things, together with their interpretation through drawing, were the foundation upon which the reading was built.

Many of the suggestions seem to be mere repetitions, but a different thought was in mind in each. For instance, similar preparations are necessary when going to bed and getting up. This repetition, because the thought required it, gave the drill needed to fix the vocabulary and was also depended on to help impress the health ideas.

Such words as *wash, iron, sweep, dust, mend,* etc., were written on the board and used for action games. Later various commands were written, which were read silently and played in the same way. One of the lessons was: Play mother, wash the clothes, you may iron the clothes, you may mend the clothes, put the clothes away.

*Motivated Work* — After the children were weighed and measured, they were anxious to bring their weight up to the standard. While devising ways to do this, they discovered the necessity for eating good food, playing outside, sleeping with the windows open, and wearing proper clothing. The fact that some foods are more healthful than others started the children to look for pictures of good foods. The names were attached, and the pictures arranged on a chart to show what would be good to eat for breakfast, dinner, and supper. Each time the thoughts developed in the

talk were read in the lesson which followed. At one time the lesson was: Come to breakfast; eat fruit; eat an egg; eat good bread and butter, and drink milk.

Most of the lessons reported here were read silently and then played as action games. The following is another of the reading lessons that were based on the information gathered from the talks and charts: Getting Ready for Bed. Wash your hands and face; you may clean your finger nails; get your tooth brush; wash your teeth; get undressed; put on your night clothes; put up the window; put out the light; and get in bed.

*Topics for Reading* — Some of the other topics used for reading are: Getting dressed; taking a bath; getting ready to eat; and getting ready for school. Sometimes directions for seat work furnish silent reading material. (1) You may go to the blackboard. Draw something good for breakfast. (2) Then get a little sheet of paper. Draw fruit, vegetables, and eggs. To check up the seat work the class had done, the sentences were read aloud to see if they had been correctly interpreted.

At times the request for pictures to be used for new games was the subject matter of the reading lesson. Please find some pictures for me. I want a picture of a hair brush. I want a picture of a comb. I have little pictures of a comb and brush. I want big ones. Find a big picture of a bath tub. Sketches of the articles were made when the words were not in the

children's written vocabulary. In the same way pictures of other things, soap, towels, a tooth brush, warm clothing, blankets, an umbrella, a raincoat, children playing in the open air, etc., were collected by the children and displayed with the name of each article under its picture.

Here is a suggestion for the use of such a chart in connection with a reading game. Sentences such as the following were written on the board: "I will brush your teeth," "We will help keep you warm," "Use this at night," "This is a good way to keep well," "We will help keep you dry."

As each sentence was read silently some one found the picture it told about. Then the oral reading of the sentence proved whether the correct picture had been selected. Sometimes there was an opportunity for a choice of pictures. The sentences were expressed in the vocabulary of the group that read them, and different ones used each time the game was played.

Another way this health material was used was in making games about "Getting Washed and Dressed for School" and other similar topics. The words were composed by the children to fit some familiar tune. The verses were then read from the board and played by the group.

Health mottoes written on the board or displayed on posters are often read or copied by the children in "free time" and soon become a part of their recognized vocabulary. These have been used: "Eat

good food," "Play outside," "Wash your ears," "Use a clean handkerchief," "Take a bath," "Sleep with the windows open," and "Drink milk."

*The First Grade Plans may be Adapted to the Later Grades* — The following reading lesson composed in connection with a project carried out by children ready to begin the second year of school was read from the board:

"We built a city with cardboard and boxes and our toys.

We wanted to make our city a safe place to live in.

We built it so that the people would keep well.

We wanted plenty of light and sunshine in the rooms, so we built the houses far apart.

The wide streets helped to give the people fresh air.

Every day the toy sprinkler went through the streets to settle the dust and cool the air.

We made a park so that the children and big people could have a place for tennis and other games.

The factories were built down near the river.

The houses were built farther out in order that the people would not have to breathe the smoke.

On the corners we placed waste cans to help keep the city clean.

We played with our city many times."

This lesson was one of a series of script lessons which were developed in connection with the project. They might have been printed and read again in that form.

In the second and third grades the children can read some of the more simply worded health sayings

found with the pictures they get to illustrate the health talks. Some of the health maxims may be distributed to the class for a reading game. When a child thinks he can read his card, he may be chosen to play it in pantomime. The one who can guess what was acted must read the saying aloud so that the class can judge whether the player interpreted the maxim correctly.

Memory verses and poems the children can read frequently have suggestions of ways to improve health.

Many topics for third grade health problems may be derived from a study of Stevenson's poems, especially the ones which reveal the drawbacks and partially blighted ambitions of his own short invalid life: "The Land of Counterpane," "The Lamplighter," "The Land of Story Books," "My Bed is a Boat," "The Hayloft," and "Farewell to the Farm." To develop the health lessons from these poems such questions as the following may be put before the children for reading and discussion: 1. Why did he write so often about his nurse? Had he no mother? 2. Why are the games he mentions frequently played in bed? 3. Why did he visit his grandmother's farm? 4. Referring to the poems, "The Hayloft" and "Farewell to the Farm," what kind of games did he play while on the farm? 5. How do you suppose his visits to the farm affected his health?

Many selections from Longfellow's "Hiawatha" demonstrate the health and strength attained from outdoor life.

## Chapter VI

## CIVICS AND EDUCATION IN HEALTH

By J. Leslie Purdom, Ph.D.

In this chapter we shall endeavor to show how instruction in civics may be utilized to help develop a proper health consciousness, but before attacking the real problem it seems desirable to state our conception of civics, and the grades in which we think it should be taught.

In the preface of a recent elementary civics textbook we read the following: "Our aim has been to give the child in the upper grammar grades such an understanding of his relation to other people as will make him a good citizen." We fully agree with the aim set forth in this statement, but we are of the opinion that civic instruction should not be reserved for the upper grades, even though that seems to be where it is generally found. Children from the average homes have already learned much relative to proper social relations before they enter school; and since they must continue to live with human beings throughout life and must necessarily develop notions about human relations, there is every reason why instruction in regard to these relations should not be omitted from the elementary school period. It seems to us advisable to have such instruction in all of the grades. When we use the term civics, we shall understand it to mean a course of study extend-

ing throughout the grades, dealing with social situations, institutions, and organizations.

Though we think of all human relations, even those in the home, as being included in civics, in this chapter we will consider only those which have a bearing on health. The aim here is to select out from the great body of civic material situations that have a health bearing.

We do not approve of an attempt to teach health as we would teach arithmetic, history, or geography, yet we realize that desired results will not be obtained through the regular subjects unless teachers are conscious of the fact that through the regular subjects health should be kept before the children constantly or at regular intervals. We would suggest that in the civics or social relations classes material which has a health significance should be presented regularly and frequently throughout the eight grades.

*Civics and Health Related to the Home* — In the first grade the civic-health work is primarily related to the child and the home. As a concrete example the neat and healthy appearance of the child is met with approval in the schoolroom. Approval awakens an interest, and the individual begins to realize the importance of his relation to other members of society. All the habits that are required in the make-up of a neat and healthy appearance are developed and encouraged.

Other topics for discussion are health work of the mother in care of the home and members of the

family, health work of the father in putting up screens, care of furnace, making a garden. In this grade the child can begin to see the importance of his activities in the home and in the class room, and the instruction should be related to them. His interest may be aroused in what he can do to keep himself and other members of the home and his class in good physical condition.

Practically all of the civic-health work in this grade should be carried on through conversational lessons, dramatizations, illustration, construction, and games. The children may, for example, dramatize the health work done by different members of the home and different members of the class. The children may plan and construct a model home.

*Problem of Health in the School Considered* — In the second grade the child's experiences of the preceding year are utilized and enlarged upon, emphasizing the school, and in addition, some relations of the immediate community should be introduced. The schoolroom may be used as a model in which all provisions are made for safeguarding health, such as proper heating, proper lighting, washing of windows and floors, care and removal of rubbish, care of the school yard, use and care of books and school material. Furthermore, in this grade the pupils should begin to understand that the student committees on health, the teachers, and the janitors are making a contribution to the health welfare of the school, and opportunities should be provided for the children to co-

operate with these officials in the prevention of accidents and the spread of disease.

Another topic which may be discussed is, "What can be done to secure sanitary conditions in the neighborhood?" The discussion should be based upon the observation of the children going to and from school. If the teacher will have the children construct a model community, and during this construction place much emphasis upon the open space around the homes to allow for plenty of sunlight and fresh air, upon shade trees and ample room for play, upon the care of ash cans, garbage cans, tin cans, sheds, and outbuildings, the children will begin to see that the conditions and activities of one family may have much influence on the health and welfare of another family.

*Community Health* — In the third grade home and school activities should still be kept in mind, but much attention should also be given to institutions in the community which have a bearing on the community health. The grocery store, butcher shop, bakery, dairy, and drug store should be studied rather intensively. The teacher may take the class to all of these places, and after the visits should raise such questions as: Why is it important to keep food free from dust and dirt? Why is so much attention given to disposal of spoiled food? Why do they keep the back yard clean? Why are the rooms properly screened? Why are the men dressed in white? Why do they have sanitary receptacles for ice cream in the

drug store? Why was the milk pasteurized? Why were the milk bottles perfectly sterilized? In the discussion of these various questions suggested by the teacher many additional questions of interest are sure to be asked by the children, and a wholesome public sentiment developed in regard to these matters.

A case will illustrate the point. Just recently a third grade teacher took her class to a large wholesale and retail bakery in the vicinity. After the visit the children discussed each process in the making, from the sacks of flour to the wrapped and sealed bread, stressing the sanitary provision of each process such as the sifting of the flour as taken from the sacks to eliminate any remaining particles of lint and dust, the cleanliness of all receptacles and machinery used, the personal cleanliness and habits of the employes, and the fact that the bread was not touched by the hands of any one during the entire process. The children concluded that the machinery was used so extensively for sanitary reasons as well as for saving labor. They further concluded that the policy of this bakery was significant as to the welfare of the whole city and should be commended.

*A Health Lesson* — After a visit to a butcher shop where ideal conditions prevail, the discussion in this same grade was about as follows: (Teacher) What do you think of the butcher shop we visited? (Answer) Fine. (Teacher) Why? Many reasons were given relating to the cleanliness of the shop and furnishings, the fresh meat, the proper disposal of scraps, the

personal cleanliness and health of butcher and employees, and the proper preservation of the food. (Teacher) Why should we be careful about the kind of place from which our food comes? Various reasons as to how our health might be affected were given. (Teacher) Would you be afraid to deal at a butcher shop like the one we visited? (Teacher) Have you ever been in one, especially in summer, where you would not care to deal? Children related various experiences in regard to flies, mice, roaches, spoiled meat, etc. (Teacher) Why do some people continue to buy at such shops? (Answer) It is near their homes; the prices are low. (Teacher) Why are the prices low? Such possibilities as the following were given: The meat is not of a good quality, the butcher employs few helpers, and his shop rent is low. (Teacher) What might happen if we eat a poor grade of meat? (Teacher) Is sickness expensive? Why? (Answer) Medicine must be bought, wages are sometimes lost, and doctor's bills incurred. The conclusion was then reached that it was not cheaper in the long run to buy meat of a poor quality which is poorly protected. (Teacher) Do all stores that sell at reasonable prices sell poor meat? (Teacher) Why are they able to sell at reasonable prices? Because they buy in unusually large quantities. (Teacher) Why should every butcher be required to keep everything about his shop clean, and his meat fresh and good? (Answer) So that the people who eat the things from his shop may be healthy. (Teacher) How can we help to make the

butcher and his shop clean? (Answer) Stop buying from him and report him to the health authorities.

*A Clean City* — In the fourth grade the activities of the school, home, and community will still be stressed, but some city activities will be added. In this grade much time should be given to condition of alleys, vacant lots, streets, factories, picture shows, city playgrounds, swimming pools, picnic grounds, reservoirs, and crowded districts. Excursions should be made, and such questions as the following should be discussed in class: Of what significance are filthy alleys, lots, and streets? Who should clean them? What can we do to help keep them clean? Does the vacant lot belong to the city or to a private person? If owned by the city, who is responsible for keeping it clean? If privately owned, what authority has the city to see that it is cleaned? From what health standpoint should vacant lots be kept free from tall weeds, stagnant pools, and other germ-breeding places? Why should the moving picture theatres be properly ventilated? How may we help? How may a factory become a public nuisance? Have the owners of a factory a right to allow it to become a public nuisance? Should the public be concerned about healthful conditions in the factories? What demonstrations of maintaining ideal health conditions have you noted in the factories visited? What would be the ideal location of public parks? Should we be as careful about conditions on public playgrounds as on our private yard? Why should the swimming pools be

clean as our bath tub? If a diseased person should enter the pool, would you report to the proper officials? Why should we not leave waste paper, boxes, etc., on the picnic grounds as many people do? If you should throw something filthy in the public reservoir, how may part of it come back to you? How may disease developed in the crowded districts affect you? A rural teacher can emphasize points relating to rural conditions, such as wells, cisterns, outhouses, etc. Below is a report of a fourth grade recitation on civic-health material, as a result of a visit to a factory where ideal health conditions prevail.

*Teacher* — Why should a factory concern itself as to the health of its employes?

The children developed the fact that people must be healthy and strong to accomplish the greatest amount of efficient work in the shortest time possible.

*Teacher* — Why is this of advantage to the employer?

*Answer* — The business would thrive; the employer would gain financially, and as a consequence all connected with the factory would prosper.

*Teacher* — Do you think the owner of the factory we visited realized how necessary it is to have a healthful working force? Why do you think so?

The children related and discussed the many demonstrations of health improving devices and plans installed, and the advantages of these to all concerned. Some of them were as follows: sufficient light and ventilation, natural, if possible, otherwise the best artificial; proper regulation of temperature

at all seasons; cleanliness of all people and things connected with the factory; a lunch room where only pure, healthful food is served; pure water and individual drinking cups; rest rooms; emergency hospital with attendants; play rooms with attendants for children of the employed; gymnasium and amusement rooms; and sanitary provisions for lavatories.

*Teacher* — Of course, these are ideal conditions, but how might the lack of ordinary health precautions affect the people employed?

The reasons given were: their sight, hearing, and general health might be impaired.

*Teacher* — From personal or factory uncleanliness, how might the health of one employe affect many of the others?

There followed a discussion of germ carrying diseases.

*Teacher* — Do you think the health of the city might be affected by unhealthful factory conditions? How?

The reasons given were: coming into personal contact with persons of the factory or the manufactured product.

*Teacher* — Can you think of other ways that might ruin the health of people living near them?

The causes stated by the children were: smoke, unpleasant odors, and uncleanly conditions surrounding the factory building.

*Teacher* — How might we prevent these conditions?

*Answer* — Try to teach them better, but if unsuccessful, report them to health authorities.

The conclusion reached was that the expense of all possible health improving devices was returned many-fold to the factory owner.

*Relation of Individual Health to Community Welfare* — In the fifth grade all the activities mentioned for the other grades will be enlarged upon, and in addition much time should be given to the city organizations dealing with health problems in the city. From a discussion of the death rate as compared with other cities and the influence that the health of one individual may have upon the health of the whole city, the children should be led to see the importance of the city; assuming control of health conditions and of appointing various officers to administer the various regulations which have been passed. They should also be made acquainted with the organization for health control in the city, and should become so familiar with the whole situation that they would know to what specific officer they should go for information on any specific point. The value and function of rural health officers should be considered in country schools.

After the children have been led to realize the necessity for the city assuming control of health conditions, and have become thoroughly acquainted with the functions of the departments which aid in fostering a healthful city, the following plans for furthering these problems may be found helpful:

The class may be imagined as a city, and the children may be permitted to choose, from among their

number, a child capable of assuming the duties of mayor, as an officer of health. The mayor then appoints the commissioners of the departments of health, such as health, sewer, park, water, and street. The police commissioners, because of their power of forcing obedience to health laws and regulations may be included; the commissioners in turn appointing others as officers, to help in the fulfillment of their obligations, until some duty devolves upon each child in the class.

Much interest is aroused in meetings, called and supervised by the mayor, for the purpose of stating and discussing problems of health concerning these various departments. Each department computes and records matters of importance accomplished by them. This information may be obtained in many ways; from newspaper or magazine clippings, from pamphlets issued by the City or Chamber of Commerce, and from department records or commissioners. The children should be encouraged to bring for class discussions any of these articles. Pictures relating to the various departments of health may be brought, and charts made of these.

Debates, as to which department does most for the health of the city, with the remainder of the class acting as jury, encourage quick, clear thinking and knowledge of the subject matter.

The children, serving as officers of health, may also be detailed to watch for, and endeavor to correct many unsanitary and unhealthful conditions and habits

of the children in the class room. If handled in a tactful way, these officers may even assist in this matter with the children of the entire school, and thus instill healthful habits in our future citizens.

A model miniature city may be constructed and laid out, demonstrating ideal conditions for a healthy city, such as proper locations of factories which might be a nuisance to public health, streets wide enough to give sufficient sunlight and air to spaces between buildings, parks in desirable locations, city playgrounds, sanitary open air swimming pools, and other favorable factors of health.

*The State and Health* — In the sixth grade, in addition to the topics treated in the lower grades, problems of health with which the state must deal, and the state organizations for dealing with such problems, should be considered. By taking up such matters as the failure of some town in the state to take the necessary precautions to prevent the spread of smallpox to other towns and the refusal of some town or city to enforce the proper labor regulations, the children can be led to see the advisability of having some state authority which would act in the interest of the whole state. After seeing that there is a need for state officials for health, the teacher will find no difficulty in arousing interest in just how the state is organized for this control and what the specific duties of the various officials are. The children should then learn that there are numerous laws relative to the health and safety of employes, to the platforms and passageways in and

about railroads, to the transportation and burying of dead bodies, to the number of tenants occupying an apartment, to child labor, to factory inspection, to the control of contagious diseases, etc. These laws should be studied, and the children made to see the importance of the cooperation of citizens in enforcing them.

In the seventh grade, in addition to covering the field outlined for the previous grades, the scope of the work should be enlarged to include national problems. It would be necessary for the teacher, first to lead the children to see the necessity of the United States taking a hand in health work. This may be done by referring to cases in which the United States had to take part, such as: overcoming mosquitoes in South Arkansas, stamping cholera out of New Orleans, checking infantile paralysis in the eastern part of the United States, health inspection of immigrants at Ellis Island, control of diseases in army and navy, and guaranteeing pure food and drugs. Then the various United States health laws and the organizations which the United States has developed for dealing with health problems should be studied and their work understood.

*Health as a World Problem* — In the eighth grade health problems of the home, community, school, city, state, and nation taken up in the other grades should be treated in a more comprehensive way, and the field enlarged to cover the world. Though there is no organization or group of officers having authority over

the entire world, the pupils should be led to see that starving peoples in any country are a prey to diseases, and that diseases among such people are likely to spread; that poor health supervision in one country may endanger lives in another country and the whole world; and that from a health standpoint the world is a unit, and cooperation very necessary. They should therefore be led to see the significance of such an undertaking as that of the Red Cross to drive typhus out of Poland, and of any attempt to form a health-league of nations. It would be wise at this point to make a comprehensive study of the Red Cross in its world relationship.

## Chapter VII

# HEALTH TEACHING AND HISTORY

By Margaret M. McLaughlin, A.M.

History, like geography, hygiene, and other subjects of the school curriculum, has a definite content of its own, a part of which relates to health. Our question is how this health material may be used in the history course. There are two ways: it may be intruded now and then as time and occasion permit, or it may be made an integral part of the course. If history is taught merely as a collection of facts, interesting perhaps, but quite apart from life, health teaching will seem an intrusion; but if history is so taught that its real connection with the life of the citizen is made apparent, health teaching will not seem an intrusion.

In teaching health in connection with history, the teacher must choose those vital facts of history that bear upon health; then make the pupil realize through vital teaching that these facts are vital, and so induce him to accept them as a part of his vicarious experience as an individual and as a citizen. From health material so selected and so taught, we may expect the children (1) to acquire knowledge that is most interesting and that appeals to them as eminently worth while; (2) to build up a correct attitude toward matters of private and public health; (3) perhaps to set up high ideals concerning private and public health.

*Problems of Health in History*—Health material in history groups itself around a limited number of vital problems and recounts man's efforts to solve them. The following are important among these problems:

1. What kinds of homes are safe, comfortable, convenient, sanitary, and attractive?
2. What food satisfies and nourishes?
3. What kind of clothing is most comfortable and most beautiful?
4. What occupations are necessary and how may they be rendered remunerative, safe, and of most service to humanity?
5. What surroundings are most pleasant and most sanitary?
6. What laws and what organizations are most useful in the solution of the above problems?
7. How can the results of efforts along above lines be measured and what are these results?

*Subjects for the Sixth, Seventh and Eighth Grades—Classified as to Problem to which they Relate* — Each of the following subjects should be discussed at the appropriate time; that is, when it naturally arises in the history class. Some subjects will require one lesson; some, two; some, perhaps, more. The teacher must decide this.

Sometimes the lesson may not be much more than an outline; at other times, the class should enter into a full discussion of the subject in its various aspects. Many of the subjects may be illustrated with pictures made by the children or gathered from papers and magazines.

*Homes and Health* — 1. Compare homes of Indians and early colonists as to comfort and effect on health.

2. Compare homes of early colonists and people you know which are more sanitary.

3. Compare homes of early colonists and homes of the peasants of Europe at that time.

4. Compare homes of early colonists and of the nobles of Europe.

5. Compare homes of people of Europe in 1600 and homes of people in this country now. Effect on health?

6. What improvement was there in homes in America from early days to Revolution? Effect of improvement on health?

7. Compare homes of Indians in Arizona and New Mexico with homes of Indians in the eastern part of this country. Which were more sanitary?

8. What advantages as to health did Indian tepees have over houses of white people in colonies?

9. What advantages did Indians have in their occupations as to health over some people in this country now?

10. What are some of the laws concerning buildings in the cities in this country now? Why were such laws not necessary in colonial times?

11. What is your community doing now as to health of people concerning homes?

*Food and Health* — 1. Compare the food of the Indians in early days with the food of the colonists as to amount, kind, methods of cooking, variety.

2. How did the food of the Indians in former times differ from their food now?

3. How did the food of the early colonists and the Europeans differ?

4. How does our food differ from the food of the early colonists?

5. What are the laws concerning milk in your community? Were there such laws in colonial times? If not, why not?

6. Tell all you can about one or more pure food laws. Were there such laws in colonial times?

7. What necessary articles did the early colonists sometimes lack? (Bread, salt, etc.)

8. Give some examples of what law has done for pure food.

9. For pure milk?

10. What has your community done through laws for pure food?

11. What has the state done through laws for pure food?

12. What has the United States government done for pure food?

13. Show the relation of the beef scandal during the Spanish-American War to health.

14. Why did more soldiers die from disease than from wounds in the Spanish-American War?

15. If your school has not its own lunch room, debate the following question: Our school (or every school) should have its own lunch room.

16. What measures were taken during the World War to improve the health of our soldiers?

17. What effect did the World War have upon the health of children in Europe?

*Clothes and Health* — 1. How did the clothes of the Indians compare with the clothes of the early colonists as to effect on health?

2. How did the clothes of the colonists and of the European countries compare as to effect on health?

3. How did the World War affect the health of children in Europe on account of clothes?

*Occupations and Health* — 1. How did the occupations of the colonists as to effect on health compare with the occupations of the Indians?

2. How did the occupations of the early colonists compare with the occupations of the Europeans as to effect upon health?

3. How did the work of the Colonial children differ from your work?

4. What advantages as to health did the colonial child have over children of the present time?

5. What were the colonial child's disadvantages as to health compared with your advantages?

6. Should a child have a health certificate before he goes to work?

7. Why is it necessary for a child to have a permit to go to work at fourteen?

8. What are the laws governing children working in factories? Why are such laws passed?

9. What laws have been passed concerning length of the working day?

10. What are the laws in the cities about push carts and other street vendors, and why are such laws necessary?

*Surroundings and Health* — 1. Were colonial school houses as sanitary as our school houses?

2. Why were there so many deaths among the settlers in the first years of the Plymouth Colony?

3. What caused the extinction of the Indians in the neighborhood of Plymouth Colony?

4. How did the health of the Indians in early times compare with the health of the Indians today?

5. What were the causes of chills and fevers in the early settlement of this country?

6. Why did draining swamps affect the health?

7. Compare the death rate in early times in this country with the death rate now.

8. Were the slaves healthy? How did their homes compare with the homes of the whites? What kind of care did they have when they were ill?

9. Why are there notices against spitting on the cars?

10. Tell something of the history of such laws and the extent to which they are obeyed.

11. What laws against infectious diseases do you know about, and how have they affected you?

12. What is the value of such laws?

13. Were there such laws in colonial days?

14. Give something of the history of the garbage laws in your community.

15. Compare some smoke laws in modern cities with smoke laws in colonial days if there were any? Why the difference?

16. Compare the play of children in pioneer days and now.

17. What are sweat shops, and how do they affect health? What caused the growth of the sweat shop in this country?

18. Tell of the work of General Gorgas in Cuba after the Spanish-American War.

19. Why did the French fail in their attempt to build the Panama Canal?

20. Tell about sanitation by the United States Government in the building of the Panama Canal.

21. What did the United States Government do in the Philippines in the way of sanitation?

22. In Hawaii?

23. In Porto Rico?

24. What did the city of St. Paul do with regard to the smoke nuisance?

25. Why did the Japanese have their soldiers in the Russo-Japanese War put on fresh clothes before going into battle?

26. What was the treatment of the sailors as to health in the 18th century compared with the treatment of the sailors in the World War?

27. How did sanitation in London in 1600 compare with the sanitation of your city now?

28. Tell the story of the present water supply in St. Louis.

*Miscellaneous Subjects Connected with Health* — 1. Discuss the medicine men among the Indians and their work.

2. Compare our doctors and Indian medicine men (preparation of our).

3. Give some reasons for believing that the medical profession is considered more important in the United States now than it was in early times.

4. Compare dentistry in former times and now (pulling teeth).

5. What was the work of the Sanitary Commission in the Civil War?

6. Compare work of Sanitary Commission with work of Red Cross in World War.

7. What has the Red Cross done to improve the health of the world?

8. Discuss the growth of hygiene.

9. What is meant by the different kinds of hygiene, as personal, public, or military?

10. Compare military eugenics in the Revolutionary War and the World War.

11. Has improvement in health of prisoners been one feature of prison reform?

12. What did the discovery of ether do for surgery?

13. What were the conditions in debtors' prisons as to health?

14. What effect has prison reform had upon health of prisoners?

15. What are some of the measures taken now to improve health in prison?

16. Who was Dorothea Dix, and what did she do for improvement in treatment of insane?

17. How has the treatment of the insane improved as to health measures?

18. What does the Provident Association do for health improvement?

19. What other similar associations do you know that have improved health, and what have they done?

20. What have labor unions done to improve health since 1860?

21. How has the work of insurance companies affected health?

22. Show how Dr. Walter Reed saved the people of this country much suffering.

23. Show how Dr. Reed has saved our country much money.

24. Compare the work of Dr. Reed and General Pershing as to its value to humanity.

25. Compare the importance of Grant and Pasteur.

26. Make a list of all the organizations that have worked for temperance in this country, such as the W. C. T. U., Knights of Father Matthew, Woman's Crusade, Good Templars. Discuss work of each.

27. Give a sketch of Dr. Trudeau's life, and show what he did for tubercular patients.

28. An English historian said that the greatest triumphs of the 19th century were its sanitary achievements. Explain what he meant by this. Give some proofs that he was right.

29. Tell what laws there are in your community intended to preserve health along the following lines: Food, water supply, playgrounds, parks, amusements.

30. Tell what laws there are in your state intended to preserve health in connection with food.

31. What laws are there in your state concerning teaching in school the effects of intoxicants?

32. What is the eighteenth amendment to the Constitution of the United States, and when was it passed?

33. Outline the history of the laws in the United States concerning manufacture and sale of intoxicants.

34. When and why did Maine prohibit manufacture and sale of intoxicants?

35. What laws do you know concerning the use of tobacco?

36. What laws have been passed concerning health as connected with factories, as situation of factory, space for each worker, safety appliances, etc.?

37. What laws has Congress passed concerning health of immigrants admitted to the United States?

38. What is meant by the money value of health?

39. Show that a higher value is put upon life now than in former times with regard to workers, slaves, women, children.

*Some Suggestions as to Methods of Treating the Above Subjects*— Some subjects are appropriate for individual reports, for example:

1. A sketch of the life of Dr. Trudeau and his work for tubercular patients.
2. How the work of insurance companies has affected health in this country.
3. Compare homes of Indians and early colonists as to effect on health.
4. What laws Congress has passed concerning health of immigrants admitted to this country.

Some subjects are appropriate for the class as a whole working as a group of committees, supplemented, perhaps, by an individual report or two and by drawings, for example:

*Lesson Plan for Eighth Grade Unit of Work. Higher Value Put Upon Health Now Than In Former Times.*

I. In regard to men
   1. Kinds of work in which there has been improvement
      (a) Factories
      b) Transportation
   2. Lines along which improvement has been made
      (a) Hours
      (b) Surroundings
      (c) Pay

II. In regard to women
   1. Kinds of work in which there has been improvement
      (a) Factories
      (b) Stores

2. Lines along which improvement has been made
   (a) Hours
   (b) Surroundings
   (c) Pay

III. In regard to children
   1. Child labor laws
   2. Compulsory school attendance
   3. Cigarette laws

*Suggestions as to Use of Above Outline for a Unit of History Work Connected With Health* — The class may be divided into committees, one committee taking the first main topic. The members of this committee may find pictures of modern factories in which special attention is paid to sanitary surroundings of workingmen. The members may also discuss improvement in hours, in pay, and in home surroundings of the workingmen. They may show how better hours and better pay mean improved health if leisure and money are used wisely.

The members of the committee should make their own division with advice from teacher, if necessary.

A second committee may take the second main division of the outline, and a third committee the last main division.

Such a discussion may cover several recitations if class shows sufficient interest in collection and presentation of material. Language time may be used in writing letters to firms for descriptive material of their plants.

*Some Suggestions as to Cooperation of Drawing with History* — Take the subject: Compare the homes of the Indians in this country with the homes of the early colonists as to comfort and probable effect upon health. 1. The class may have an exposition of homes of these two kinds, using their drawing for construction work in making models of houses and furniture and of Indian tepees. The language work will be the explanations of the exhibitors of what they have made. 2. Some members of the class may get permission to use the sand table in the primary room to show the small children the Indian village with its tepees and the village of the early colonists.

*Some Suggestions as to Method of Procedure in use of Health Subjects Connected with History* — A general discussion of homes should precede the use of specific subjects.

Evolution of the home.

I. Cave dwellings
   1. Reasons for selection
   2. Character
   3. Sources of knowledge concerning these dwellings

II. Tree dwellings
   1. Reasons for selection
   2. Character
   3. Comparison of ancient and modern tree dwellings

III. How humanity in the making of homes has tried to solve these problems:
   1. How can we make our homes safe?
   2. How can we make our homes comfortable?
   3. How can we make our homes convenient?

4. How can we make our homes beautiful?
5. How can we make our homes sanitary?

IV. Differences between our homes and homes of cave dwellers and tree dwellers
   1. Disadvantages of our homes
   2. Advantages of our homes

V. How much health has been improved by improvement in homes.

(NOTE: It is an excellent plan to have an exposition showing the evolution of the home through the cave and tree dwelling periods, the homes of peasants and nobles in Europe, the log cabins and the modern homes of this country.

## Chapter VIII

# THE RELATION OF GEOGRAPHY TO THE CONSERVATION OF HEALTH

By Mendel E. Branom, A.M.

*Health Teaching Through Geographic Content* — The psychologic basis for the teaching of health concepts, as developed in the introductory chapters, involves a personal appeal in the lower grades. The need for emphasizing the personal health relation gradually diminishes; but the opportunity of broadening the experiences of the individual, so that he will think in terms of the health conditions of more comprehensive human units, in terms of the health conditions of far-away groups, and eventually in terms of the health of all mankind, gradually increases throughout the grades.

The geography course of study for the grades is organized from the same point of view. In the lower grades the personal world of the child is emphasized, and gradually the pupil, through carefully graded geographic experiences, is prepared to think of the detailed world as a whole with reference to man. Since the psychological organization of material for the teaching of health concepts and for the teaching of geographic concepts is essentially the same, health concepts can readily be developed in the geography course of study to the extent that they essentially belong to the field of geography.

*The Place of Health Concepts in Geography* — Geography not only is concerned with the development of health concepts, but also with the development of economic, social, and political concepts not directly related to health, in so far as such concepts are vital in helping to explain the utilization of earth resources and the adjustments of man to the various phenomena of land, water, and air. In the organization of geographic material into meaningful units of work, the health concept *may* be dominant. For example, the purpose may be to determine why the people of the Panama Canal Zone have much better health than the people of the Amazon Basin. The health concept may be subordinated to some dominating purpose. For example, the purpose may be to determine how the Americans succeeded in constructing the Panama Canal. The establishment of sanitary conditions on the Isthmus obviously is only one of a group of topics that will be considered. Health conditions may be contrasted with the economic conditions in their effects on human activities. For example, the purpose may be to determine whether the states south of the Ohio River are less progressive than the states north of the Ohio River primarily because of the poorer health of the Southern people.

*The Relation of Geography to the Conservation of Health* — Health may be considered with reference to (1) the personal environment of the child, (2) the personal environment of other people, and (3) health conditions in relation to a large area. For example,

the purpose may be (1) to determine whether the air of the schoolroom is wholesome, (2) to determine why many people visit Atlantic City during the summer season, or (3) to consider whether polar or equatorial regions are the more nearly ideal from the health standpoint. In a variety of ways and in a variety of situations, health discussions inevitably will enter into the geography work. Not the least important of the aims of geography teaching is the development of a health outlook, that will make the pupil conscious of the need of good health and the physical conditions which promote good health, that will prepare the pupil to value good health so highly that he will be willing to form personal health habits, and to use his influence in helping to promote the health of all people.

*Geography and Health in the Primary and Intermediate Grades* — In the lower grades the content of geography is organized about the home and community life. The emphasis is placed on the ways that the economic needs and wants of the homes of the community are supplied. The home requires food, drink, clothing, shelter, fuels, light, and luxuries. In the intermediate grades the pupils become acquainted with the various parts of the earth through a study of regional geography. Since the local environment is not the same for pupils everywhere, the order in which topics will be taken up will vary according to the community. If the pupils are accustomed to shallow well water, for example, the pupils in their

home geography work will study the local domestic supply, following which, in connection with journey and regional geography, they will study about the water supply from springs, deep wells, rivers, and lakes. If the local supply is from a river, the use of river water will be emphasized in local geography, and later, in the journey and regional work, other sources of supply will be considered.

In the third and fourth grades the study of industries affords an excellent opportunity for the teaching of health. Let us take, for example, the dairy industry. In a study of this, one might try to work out (1) why the industry is so important both in the country and in the city; (2) where and how the milk is obtained; (3) how it is transported; (4) how it is prepared for city distribution; and (5) the relation of city and country with regard to the milk industry. Each of these points has a direct bearing on health. A discussion of the first point would bring out the value of milk as a necessary article of diet. The second point would show the necessity for proper care of the vessels containing milk, and also the need of caring for the cows from which the milk is obtained. In connection with this study, the inspection of cows and of diary plants in rural communities and cities might be discussed. The third point would show the need of refrigeration and of rapid transportation of perishable articles of food. The fourth point would bring out the necessity for pasteurization and sterilization of milk, which would also emphasize the need for cleanli-

ness of vessels containing food. The fifth point could be made to show clearly the wide-spreading, disastrous result of impure milk to the city child. It should give a new desire for the sanitary handling of milk, and to the country child it should also show the responsibility of the rural community for the health of the city.

A visit to a dairy plant would bring out these points besides bringing up other questions relating to health. Why did all the workers in the dairy wear white clothes? Why did some of the workers wear wooden soled boots? Why did our guide advise us to keep on our wraps?

Another geographical study that will contribute health material is that of the water supply. We might begin by finding out the source of the local water supply to see whether we could reasonably expect the water to be healthful. Then we might compare other sources of supply with our local supply, rivers, springs, lakes, wells, and cisterns. Which of them might we expect to be healthful? What might be some causes that make them unhealthful? How can water be purified?

Many other questions might be raised. How does our community dispose of sewage so as not to contaminate the water supply? In many communities this would involve a study of water currents. In communities where water is supplied by cisterns and small wells the question of seeping water and mineral deposits would be an important factor.

This study should arouse in city pupils an interest in the city water supply and a consciousness of the need of a healthful water supply. It should show pupils

of rural communities the need for care in selecting a site for a well or cistern. Incidentally it might bring out the need for clean vessels for containing water, the sterilization of water by boiling, the need for individual drinking vessels, the healthful effects of plenty of pure drinking water on the human body, and the need for daily washing of the body.

From these geographical studies we should expect our pupils to have gained some facts about health as well as certain attitudes and ideals in regard to health.

The following suggestions illustrate how health material may be handled in the geography class:

*Community Picture* — A long blackboard makes an ideal background. On this, the children can arrange colored cut-out pictures drawn by themselves to show how the milk is taken from the country to the city. The following pictures can be made: 1. model dairy farm (cleanliness); 2. road, showing milk truck or wagon, passing from farm to railroad station; 3. country railroad station; 4. railroad showing trains from country station to city station (rapid transportation); 5. dairy trucks taking milk to dairy plant; 6. dairy plant (cleanliness and precaution); 7. truck or wagon delivering milk bottles to homes.

*Sand Table* — The same idea could be carried out on a large sand table. Here the children would construct the farm, the dairy, and the home instead of using merely the flat colored pictures.

*Problem* — Why do we frequently hear of people becoming ill after eating ice cream at a picnic or other

gathering? Why does our city occasionally ask us to boil all drinking water?

*Story* — The incident leading to the death of Tschaikowsky, the Russian composer, would interest a class. Tschaikowsky carelessly drank a glass of unboiled water, and a few hours later he died of cholera.

*Dramatization* — Characters: Betty, a little St. Louis girl returning to her home; her father; her mother; guide; crowd of sight-seers.

*Scene One* — Time — A bright morning. Place — coach of a train crossing Merchants' Bridge into St. Louis.

*Betty* — Oh, papa, look!

*Father* — Yes, Betty, that is the Mississippi River.

*Betty* — How muddy the water is!

*Father* — That mud is brought down by the Missouri River. You know that river comes into the Mississippi River just a few miles above here.

*Betty* (as train leaves bridge) — Oh, papa, what are those funny looking ponds down there on the river bank?

*Father* — Those are settling basins. They pump the river water into them before it is sent to our homes.

*Betty* — River water? We don't drink that dirty water, do we?

*Mother* — Yes, Betty, and have you ever noticed how clear the water from the faucet is in St. Louis?

*Betty* — But they can't clean that ugly dirty water and make it clear.

*Father* — Yes, Betty, they can do more than that. They can take out all that mud and millions of disease germs, too.

*Betty* — Where do they do it? I don't see how they do it.

*Mother* — Some day father and I will take you up to the Chain of Rocks, and there we can see them purify the water.

*Betty* — Oh, let's go soon — just as soon as we can.

*Scene Two* — Place: Chain of Rocks—pumping station.

Guide explains method of treating water to a crowd of sight-seers. Visitors ask questions. (Data can be taken from pamphlets on the local water supply obtained at City Hall.)

At conclusion the other visitors and guide withdraw.

*Father* — Well, Betty, do you think they know how to clean that dirty river water?

*Betty* — Oh, papa, I didn't know that it takes so many people and so much work to give me a glass of water to drink.

In the upper grades, type studies emphasizing health factors may be presented. The problem method of attack may be used to good advantage. The Panama Canal Zone may be taken as an illustration of a regional study approached from the problem standpoint.

*Problem* — How the United States has succeeded in making the health conditions in the zone almost perfect.

1. Things to be overcome.

Long history of the region marked by malaria, bubonic plague, and yellow fever; uncleanliness of natives of Panama; indifference of inhabitants to health; very high death rate among laborers especially those of France; Colon and Panama considered the dirtiest cities in the world.

2. Unhealthful factors in the zone.

Dirty streets; no sewers or hydrants; refuse from houses thrown into back yards and streets; drinking water kept in barrels in the yards; no bathing facilities; scarcity of water.

3. Unhealthful geographical factors in the zone.

Colon and Panama built on ground so low that it could not be drained; region one of swamps and jungles—result: many insects and bugs, besides poisonous gases.

4. How the Unites States overcame obstacles.

Gorgas appointed by Canal Commission as Chief Health Officer; hospital built by France improved; sewage systems established; reservoir built in the hills; incoming ships inspected for rats, as rats are known carriers of disease; brigades formed to exterminate mosquitoes and other injurious insects; homes fumigated and screened; natives of Panama instructed as to bathing and the keeping of houses free from filth and dirt.

5. Result.

$20,000,000 spent. Death rate lowered so that it is now no higher than in New York City.

*Health Resorts* — Given below is a list of cities which have gained the reputation of being health resorts on account of their geographical conditions. Some resorts owe their location to the brisk, bracing air of the mountains; as Asheville, N. C., and Colorado Springs, Colo. Saranac Lake had its beginning as a Tuberculosis Camp because a young doctor, discovering that he had the dreaded disease, determined to see what the invigorating air of the Adirondack Mountains would do for him. He went to the place where now a famous hospital stands, and here he regained his health. Other locations enjoy the warm moist breezes of the ocean, as Palm Beach, Tampa, and St. Augustine, all famous resorts in Florida.

A short outline may be given to be filled in by the pupils so that the following factors will be brought out:

1. Why the climate is conducive to health.
2. How the position of the resort is favorable.
3. In what way the altitude promotes health.

On an outline map, these health resorts can be located, and the map designed as an *outline map on health.*

### Health and Industries

Type lesson.
Eastern Section.
Manufacturing conditions

1. Formerly
   - Poor buildings
   - Health of operators not considered
   - Machines not suited to workers
   - Home life not looked into
2. At the present time
   - Well ventilated and lighted factories
   - Physical condition of operators looked after by physicians
   - Welfare of workers considered important

Western Section.

1. Occupations tending to promote good health
   - Forest rangers
   - Ranchmen
   - Rangers

2. Regions that are considered as health localities
   Colorado Springs
   Phoenix, Arizona
   Mountain resorts
3. Reasons why these regions are health regions

Problems which may be worked out in relation to certain localities may be studied: (1) Why the hook worm sickness is prevalent in the southern section; (2) comparison of the board of health in some city of the United States with conditions in foreign countries; (3) why immigration has increased disease; (4) why it is hard for Indians to live in houses.

*World Outlook in the Grammar Grades and the Junior High School* — In the preceding grades the pupil has increased and organized his knowledge of local geography and of the various regions of the earth. In the grammar grades and junior high schools the earlier experiences are utilized in an attempt to develop world-mindedness with respect to the more important relationships. In the lower grades the pupil has considered the various ways that his health may be affected in his attempts to meet his needs and wants. In the intermediate grades he has learned how the health of other people is affected by the relations they sustain to the physical environment, especially food, water, and air. In the grammar grades the health concept earlier developed may be used as a basis for a consideration of such topics as (1) the division of the earth into health zones; (2) the distribution of people in relation to the varying healthfulness of regions;

(3) the conditions under which the human race enjoys best health; (4) an interpretation of the distribution of civilization in relation to the factors conditioning health; (5) the wonderful battle, world-wide in scope, that has been waged against sickness and disease; (6) the possibilities of carrying on this endeavor more aggressively through the concerted effort of all nations; and (7) the ultimate possibility that, in part, through the conquest of the health enemies of man, the people of the earth may live comfortably and happily in every part of the world where products useful to man can be secured.

*Health World-Mindedness* — It will be noted that the health concepts developed in the lower grades are not neglected in the upper grades, but the conclusions drawn in the home geography work are used through contrasts and comparisons in the interpretation of the attitude of other people toward health problems; while the varied health concepts developed in the study of various regions are invaluable in the interpretation of the health problems of world-wide significance. The problems of world-wide significance, in turn, collectively are significant in the development of a health consciousness, or a health world-mindedness, which will cause the pupil (1) to attempt to secure and to conserve his own good health; (2) to cooperate in conserving the good health of the community, of the state, and of the nation; and (3) to use his influence in helping to bring about a concerted world-wide movement, which will result in education, legislation,

and the sympathetic and practical cooperation of all people with the view of controlling disease and its spread, and with the view of promoting good health, the fundamental basis of maximum happiness and social service.

### Observation Report

*Teacher* — I notice that no one has watered our corn this morning. When Dorothy got that water before, I was just wondering where that water came from.

*Pupil* — It came from the waterworks at the Chain of Rocks.

*Teacher* — Directly from the Chain of Rocks?

*Pupil* — No.

*Another Pupil* — It came from the Mississippi River.

*Teacher* — Where did it come from directly before Dorothy took it?

*Pupil* — From the reservoir on Lafayette.

*Teacher* — And from where before that?

*Pupil* — From the waterworks at the Chain of Rocks.

*Teacher* — Where is that?

*Pupil* — North of St. Louis on the Mississippi River.

*Teacher* — Some one said that the water we drink comes from the Mississippi River. I wouldn't think you would care to drink that water. This is the way that water looks. (The teacher has a sample of the water in a jar. She shows it to the children.) What objection would you have to drinking such water?

*Pupil* — There would be germs and dirt in it.

*Teacher* — The people of St. Louis are healthy people. Is it possible that this water is prepared for drinking purposes in St. Louis?

*Pupil* — Yes, it is filtered.

*Teacher* — That takes the impurities out.

*Teacher* — Does filtering take everything out?

*Teacher* — Here is an example. A family having a farm on which was a well always had malaria. The well was investigated, and they found that their drill had gone through some old wood that had been covered up. This wood was decayed, and the water was coming up through that wood bringing germs. What do you think we have to consider in locating our house and well?

*Pupil*—We must see that we are near a fresh water supply.

*Teacher* — If a man buys a farm and the well is already built, how can the man protect himself?

*Pupil* — He could have some one inspect the water.

*Teacher* — What else can water be tested for besides dirt and germs? Suppose there was a deposit of lead near the well?

*Pupil* — There might be lead in the water.

*Teacher* — Suppose the water carried gases from decayed matter?

*Pupil* — Those gases would be poisonous.

*Teacher* — What could he do?

*Pupil* — He could boil the water and let it cool before drinking it.

*Teacher* — What would be the objection?

*Pupil* — It would take too long for the water to cool.

*Teacher* — What should we do before we dig a well?

*Pupil* — Take care in choosing a place for our well.

*Teacher* — Isn't there something else that could be done?

*Pupil* — We could find out where the dirt is coming from.

*Teacher* — Yes. Perhaps we could, and then check the cause.

*Pupil* — We could filter the water.

*Teacher* — Sometimes a filter is used. It is a tank with a stone inside. The water passes through this stone and in that way is filtered. What objection would you have to that method?

*Pupil* — It takes too long.

*Teacher* — Give us a summary of the things that we could do to keep our water pure.

*Pupil* — We could test it, filter it, boil it, or dig a well where the water is good.

*Teacher* — Which is best?

*Pupil* — Take care in choosing a place to dig our well.

*Teacher* — If the water has been purified, is there any way that we could get germs in drinking water?

*Pupil* — Yes, if we drink out of dirty cups.

*Teacher* — Suppose we find a nice sparkling spring. Is that a sign that the water is pure?

*Pupil* — No.

*Teacher* — Some of the farmers in Sedalia have a man go around and inspect the crops. Do you think the farmers of a community could organize themselves and pay a man to inspect the water?

*Pupil* — Yes.

*Teacher* — What do you want to remember about this talk?

*Pupil* — Health and water in relation to each other.

*Teacher* — Good health depends upon pure water.

## Chapter IX

# ARITHMETIC'S CONTRIBUTION TO HEALTH EDUCATION

By J. Andrew Drushel, A.M.

It is the purpose of this chapter to endeavor to answer the questions to what extent, and how, may proper arithmetical matter of the present curriculum contribute to health education.

The outcomes of good teaching about health are proper health habits, knowledge about health and disease, right ideals about health, right attitudes toward health and disease, right conduct where health and disease are concerned. Unless arithmetic contributes rather directly to the acquiring of one or more of these outcomes, it has no place in the program of health education.

The outcomes of good arithmetic teaching are:

(1) Certain numerical responses to given quantitative situations; (2) ability to compute with integers, with mixed numbers, and with common and decimal fractions; (3) ability to discover and express quantitative relations; (4) such knowledge of business, civic, and industrial practices as will make for the social efficiency of the pupils.

It is in this last named part of the arithmetic course where skillful arithmetic teaching will find an opportunity to provide situations which will *incidentally* give some knowledge about health. If such situations

are often brought into the child's life, they will aid in forming ideals about health which may later develop into a right attitude toward health problems, whether of an individual or of a community nature.

*Arithmetic in the Primary and Middle Grades* — It is the chief business of the arithmetic teaching of the primary grades to secure habitually correct responses to certain number situations and to give the child an opportunity to acquire some skill in applying these correct responses to the four fundamental processes with integers in easy examples and simple problems. If this is true, it follows that the contribution which arithmetic can make to health education in the first three or four grades is neglible for purposes of this discussion.

In the fifth and sixth grades, children should be concerned primarily with acquiring skill in the four fundamental processes with integers; with learning the fundamental facts of common fractions, of decimal fractions, and of percentage; and with using this knowledge in adding, subtracting, multiplying, and dividing such common fractions, such decimals, and such per cents as are likely to occur in the ordinary affairs of life. Secondarily, these grades are concerned somewhat with problem solving and with acquiring some knowledge of the ordinary business forms and practices.

*Place of Arithmetic in a Health Program* — If these statements are valid, it follows that the earliest place in the arithmetic course of study where any contribution

of considerable value can be made to health education is toward the end of the sixth grade, or at the beginning of the seventh. Using the tools of arithmetic as information getting instruments is an important arithmetical exercise in the upper grades. It is at the beginning of the seventh grade that the study of problem material for its social, civic, and industrial values can be made with considerable profit for the first time. It is here that problem material and problem discussion may contribute something to health education along the line of furnishing an opportunity of knowing about health and certain diseases, and possibly along the line of helping children get right attitudes towards individual and community health, toward health regulations, and toward certain diseases.

A few types of problem situations illustrating the position just stated are submitted on the next few pages. This matter is intended to be suggestive, rather than exhaustive.

I. *Schoolroom problems.*

**Health Knowledge Getting Situation**

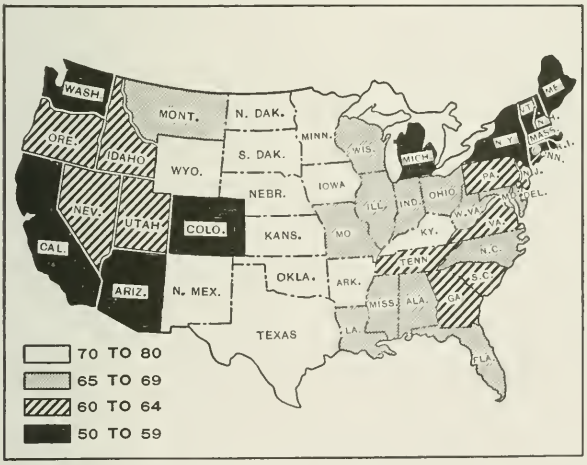
1. Why is the modern schoolroom for 48 pupils 30 feet long, 25 feet wide, and 13 feet high? The teacher must know that this problem involves the two questions of proper air space and proper floor space for each pupil. When the children discover through the teacher that the two questions are: (1) What is the proper air space for each pupil? (2) What is the proper floor space per pupil? the arith-

metical computation involved has meaning for them, and they go at it with "pep."

This problem should lead to the problem of the determination of the air space and floor space per pupil of their own schoolroom by measurement and computation. This type of material should be studied as a part of the mensuration work in the 7th grade.

II. *Problems about the Selective Draft.**

Under the operation of the draft in the recent war, registrants were given physical examinations to de-




termine who were fit for military service. Those who were sent to camp after passing the local examination were given another examination by the army surgeons. Additional men were rejected on account of defects found after entering camp.

*Modified after a portion of the Health Chapter, Book Three, Arithmetical Essentials, by Drushel-Noonan-Withers.

1. From these two examinations data have been found which show how the men from the different states compared in physical qualifications. The above map (distribution graph) shows four classes of states. What are they?

2. Name the states which showed the highest per cent of physical fitness. How many are there? How do you account for Kentucky's record?

3. Name the states which showed the lowest per cent of physical fitness. These states divide themselves into two groups: those which attract many people suffering from certain diseases and those which contain a large per cent of foreigners.

4. How do you account for the low record of Michigan? Of Washington? Of New York?

5. The records show that every 100,000 country boys furnished for the military service 4790 more soldiers than each 100,000 city boys. Express this superiority in per cent. Why are country boys more likely to be physically fit than city boys? What can city boys do to improve their physical vigor?

6. An analysis of the causes of rejection of 10,258 recruits of the first selective draft in 1917 from eight different camps shows that 21.68% were rejected on account of eye defects and 8.5% were rejected on account of tooth defects. Find the number rejected on account of these two defects. What can children do to avoid eye and tooth difficulties?

7. In the first selective draft 2,510,706 men were examined; 730,756 of this number were rejected on account of physical defects. Find the per cent rejected.

*Health Knowledge and Health Attitude Getting Situation* — Problems about certain diseases.

Health value.—Provide another opportunity for getting correct attitude toward typhoid and malaria. *A. Typhoid.*

I. There were prior to 1910 on an average 400,000 cases of typhoid in this country each year. 10% of them were fatal. It is estimated that 75% of typhoid is unnecessary (that is, preventable).

1. How many typhoid deaths were there yearly in the U. S.?
2. How many of these deaths were preventable?
3. How many typhoid cases were unnecessary?
4. If it costs $100 to fight each case of typhoid when the patient recovers and an additional $100 for each fatal case for funeral expenses, what is the yearly cost of typhoid in this country? Does your answer represent the total loss due to typhoid in this country? How much of this loss might be saved?

Health questions which should grow out of the arithmetical matter:

How do people get typhoid fever?

What may communities do to reduce the number of cases of typhoid?

What may the home do to avoid typhoid?

What may boys and girls do to help the community reduce typhoid?

To help the home avoid typhoid?

How may boys and girls avoid typhoid?

In the case of city children the foregoing discussion will pave the way for problems about purifying water. These are submitted as suggestions.

1. In a city of 180,000 there were on an average 450 cases of typhoid each year when unfiltered water was used. After filtered water was used the cases were reduced to 85 a year.

a. What was the per cent of decrease?
b. How many lives yearly were saved as a result of filtering the water?

c. About how much money loss due to typhoid was avoided each year as a result of decreasing the cases of typhoid due to filtered water? Do you think it pays to drink filtered water?

2. A city of 750,000 people used in a certain year daily 104.3 million gallons of water. The cost of purifying this water was $7.37 per million gallons.
a. Find the cost of purifying the water for one year, for one day.
b. Find the per capita cost of purifying the water for one year, for one day.
c. How much more per person does it cost to have purified rather than unpurified water?
d. In this city the typhoid cases and deaths average 1214 and 206 yearly for the 5-year period before the water was purified, and 659 and 125 for the 5-year period after it was purified.

(1) What was the % of reduction in the number of cases?

(2) What was the % of reduction in the number of deaths?

(3) What was the value of good water in the way of reducing typhoid if we allow $150 as the cost of fighting a case, $200 funeral expenses for each death, and $2400 as the value of each life lost?

The above type of material can be used advantageously late in the 7th grade or in the 8th grade.

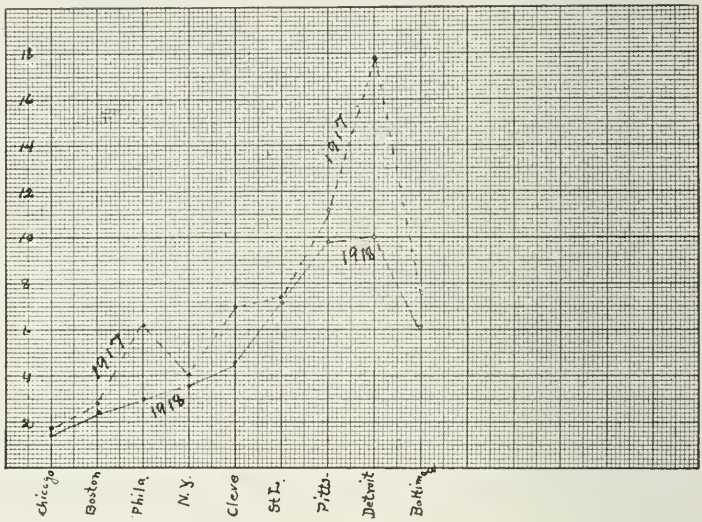
II. The following table* gives the typhoid death rate per 100,000 for each of nine large cities in the United States for the period from 1911 to 1918, except 1916.

| City | 1918 | 1917 | Average 1911-15 |
|---|---|---|---|
| Chicago | 1.4 | 1.7 | 8.2 |
| Boston | 2.5 | 2.9 | 8.0 |
| Philadelphia | 3.0 | 6.2 | 11.2 |
| New York | 3.7 | 4.0 | 8.0 |
| Cleveland | 4.7 | 7.1 | 10.0 |
| St. Louis | 7.2 | 7.5 | 12.1 |
| Pittsburgh | 9.8 | 11.2 | 15.9 |
| Detroit | 10.0 | 17.8 | 18.1 |
| Baltimore | 12.2 | 15.5 | 23.7 |

(1) Construct a line graph for 1917 and one for 1918 on the same sheet, showing the comparative death rates of these nine cities. Do the graphs intersect at any point? At which point are they farthest apart? What does this mean?
(2) Find the % of death rate reduction for each city from 1911 to 1918.
(3) Which city shows the highest % of reduction? Which the lowest?

The line graphs referred to in the first problem below the table are here represented to indicate how statistical material about health or disease may be used to show progress in a striking manner.

*Taken from Arithmetical Essentials, Book III, Drushel-Noonan-Withers, by courtesy of the publishers.




Typical health questions growing out of the above arithmetical matter: (1) What are probable causes for the reduction of the death rate in the above table? (2) How can boys and girls have a part in reducing the number of typhoid cases in their community?

*B. Malaria.*

1. Malaria is a disease which is carried from one person to another by a certain type of mosquito. A person cannot have malaria unless bitten by this mosquito. Ague, chills, and intermittent fever are simply other names for malaria.

2. It is the opinion of the National Conservation Commission that 80% of the malaria of this country can be prevented.

3. L. O. Howard, entomologist for the United States Government, estimates that there are yearly in this country 1,500,000 cases of malaria and 15,000 deaths. How many unnecessary cases and deaths yearly? What can school children do to reduce the number of cases?

4. The annual economic loss in the United States due to malaria is $100,000,000. In California it is estimated at $3,000,000. How much of this loss might be prevented?

5. The annual malaria death rate of St. Louis for the 5-year period 1900 to 1904 with an average population of 474,000 was 55; for the 5-year period 1910 to 1914 with an average population of 712,000 it was 32. Find for each period the average death rate per 100,000 and the % of decrease.

6. In certain swampy counties in this country whose average population for the period 1911 to 1914 was 666,000, there was an annual malaria death rate of 1125. What was that per 100,000? What can such regions do to reduce this death rate?

7. A decade of Malaria Reduction in 10 Cities of the United States.

| City | Average population | Average deaths per year | Rate per 100,000 pop. | Average population | Average deaths per year | Rate per 100,000 pop. | % of decrease |
|---|---|---|---|---|---|---|---|
| Richmond, Va. | 88,000 | 18 | ? | 131,000 | 2.4 | ? | ? |
| Boston, Mass. | 574,000 | 6 | ? | 706,000 | 1 | ? | ? |
| Toledo, Ohio | 139,000 | 7 | ? | 176,000 | 1.6 | ? | ? |
| Chicago, Ill. | 1,801,000 | 19 | ? | 2,296,000 | 7 | ? | ? |
| Kansas City, Mo. | 179,000 | 12 | ? | 266,000 | 5.6 | ? | ? |
| Philadelphia, Pa. | 1,347,000 | 15.2 | ? | 1,606,000 | 8 | ? | ? |
| Charleston, S. C. | 56,000 | 35 | ? | 59,000 | 18.4 | ? | ? |
| Memphis, Tenn. | 105,000 | 153 | ? | 137,000 | 102 | ? | ? |
| Evansville, Ind. | 61,000 | 8 | ? | 70,000 | 5.6 | ? | ? |
| Louisville, Ky. | 209,000 | 10.6 | ? | 230,000 | 9.4 | ? | ? |

(1) In finding the value of each question mark carry the rate per 100,000 to tenths and rate per cent to tenths of one per cent.

(2) What seems to be the order of arrangement of the above series of cities?

(3) Which city made the largest % of reduction? Which one made the smallest % of reduction?

(4) Name the 5 cities which had the highest death rate per 100,000 from 1910-14. Name the 5 which had the highest death rate from 1900-04.

(5) Compare Evansville with Louisville. What inference may you draw?

## Chapter X

# HEALTH INSTRUCTION THROUGH DRAWING

By Jean Kimber, A.B. and Florence A. Everett

To a program in health instruction, each subject may make some contribution. Some are rich in content which bears on health; others have little content, but furnish tools with which to handle the material found elsewhere. Language, for example, furnishes words with which to work; dramatization, action; arithmetic, quantitative terms; and, in a similar way, drawing furnishes form, color, and space relations.

It gives modes of expression not found in any of the other subjects. Those modes commonly used in the elementary schools are representation, construction, and design. In each of them it is necesssary for the child to have a clear idea of what he wishes to express, to select those features which are best adapted to the form of expression he intends to use, and to plan to use his materials in such ways as to bring out those features most effectively. All these characteristics of drawing make it an especially valuable means for clarifying the child's images, for focusing his attention on salient points and for expressing his ideas clearly and forcefully. Such definite images, well focalized attention, and clear expression are nowhere more important than in developing a health consciousness.

To illustrate what has just been said, let us assume that the question of posture has arisen in some class

and that the teacher has suggested that it would be a good subject for a picture or poster. Before the children can draw the picture, there must be a thorough understanding of what good and bad posture are. They must be discussed and demonstrated. Pictures may be studied. When the meaning is clear, it is necessary to decide just how the idea can be expressed in drawing. What is the direction of the line of the back when one is standing as he should? How does it curve? How is the head held? Where are the feet in relation to the head? Through questions, observation, and experimentation with lines, the children are led to study each element which enters into good posture. Finally they determine what lines best express these elements and combine them in a picture. Later study of the drawings, to determine which are most successful, leads to a review, which should fix firmly in mind the facts relating to posture.

*Construction* — Many topics which bear on health lend themselves better to construction than to illustration, and, wherever possible, this method should be used, because things constructed are more like the real objects than any picture. They can be handled, arranged, and rearranged, and make excellent playthings. From the standpoint of method, too, construction projects are advantageous, for they afford opportunities for children to work in groups.

To illustrate the values of this branch of drawing, we may take the topic, "A Healthful Bedroom," which may have arisen in home economics or hygiene.

Questions which occur are: How large should the room be? How can we obtain air without draft? Light, without glare? What effect will the color and design of the wall, hangings, and floor coverings have? What are the relative merits of carpets and rugs? Of simple and ornate furniture? The children should study rooms in their own homes, collect pictures of furniture and samples of paper. When the essentials of a healthful bedroom are clearly understood, methods of representing them with paper, paste, and scissors must be found. As in representative drawing, the discussions following the completion of the work should give opportunities for reviewing essential facts.

Many topics cannot be constructed and are too subtle to be shown in the children's necessarily crude drawings. For example, cleanliness of hands and face could not be illustrated because the children cannot draw hands and faces. They can, however, collect pictures relating to cleanliness. The part which is essentially an art problem is the determination of which are the most expressive pictures, and the mounting, labeling, and displaying of them in the most telling fashion. Other forms of design will be suggested below.

*Study of Pictures* — In addition to the technical work described, many schools devote some time to study of pictures and sculpture. This may be done as part of the art work or in connection with language. Insofar as it promotes a pleasant use of leisure time, this study bears indirectly on health. It may have a

direct bearing, also, if the subjects chosen show the beauty and joy of health and the discussions tend to bring out these points.

All the uses of drawing which have been suggested are of value in reviewing the information obtained in other subjects and in creating attitudes and ideals. Habits affecting health can be established, in connection with drawing, only in a limited degree. They should be fixed in the primary grades at the time the children are learning to use the various tools and materials, and will be listed specifically later.

The topics given below are merely typical. The list may be greatly increased by any teacher who realizes the value of drawing in this connection. They have been organized under groups of grades on the assumption that little children are interested chiefly in their immediate surroundings and that their interests gradually broaden to include larger social groups. Under each group of grades topics have been suggested for each of the modes of expression discussed above, and they have been arranged so that their execution demands increasing technical skill.

*Relation of Drawing to Other Subjects* — We have pointed out in several cases the subject out of which the material for drawing naturally grows, for we are thoroughly convinced that the value of drawing in health instruction is as a tool with which to handle in new ways and to throw into other forms the content which is found on other subjects. In proportion to the number of ways in which this content is used and

the number of angles from which it is viewed will the children develop a health consciousness.

*Topics Appropriate for Use in Drawing — Lower Grades* — I. Representation, using crayons, scissors, and clay.

1. Illustrations of
   - Good times in the fresh air, as "Games We Play in Our Yard," "A Trip to the Park."
   - Helping mother, as "Washing the Dishes," "Cleaning House."
   - Helping father, as "Cleaning the Yard," "Making a Garden."
   - Buying, preparing, and preserving foods, as "A Good Grocery Store."
2. Drawings of
   - Our Winter Clothes
   - Our Rainy Day Clothes
   - Vegetables Which Make Us Strong.

II. Construction, using sandtable, clay, blocks, boxes, and heavy paper.

- A Healthful Neighborhood
- The Park
- A Fresh Air School
- A Grocery Store.

III. Design, using crayons or scissors.

Mounting and labeling of pictures collected to illustrate such subjects as "Friends and Enemies of Health" (tooth-

brushes, soap, flies, etc.); "A good breakfast" (lunch or dinner).

(Material treated in this way may be filed, used on charts or bulletin boards, or arranged in booklets along with the children's drawings and written work.

Designing of symbols to be used on booklets.

Community posters on such topics as "Games," "Our Playground," "A Picnic."

Lettering of titles for booklets and slogans for posters.

IV. Picture study of subjects illustrating outdoor life and parental care.

Millet: The First Step.

Jessie Wilcox Smith: Illustrations of Mother Goose Rhymes.

*Health Habits.*

1. One should maintain good posture when drawing.
2. The room should be kept free from scraps and dirt for hygienic as well as aesthetic reasons.
3. The hands, with which children handle materials used by others, should be kept clean.
4. Scissors, when not in use, should be on the desk — not in the hands.
5. Pencils, crayons, and brushes should be kept out of mouths, nostrils, and ears.
6. Handkerchiefs should not be used as paint rags nor blackboard eraser.
7. Paste should not be eaten.

*Intermediate Grades* — I. Representation, using crayons, pencils, scissors, and water colors.

Illustration of —

Vigorous outdoor games for boys
Camping
Hiking
Healthful work and play in the city or on the farm.

Object drawing, especially for use in illustration and posters:

Receptacles used for food and milk
Good and bad cans.

II. Construction, using sandtable, boxes, clay, and heavy paper.

A convenient and sanitary kitchen[2]
A pleasant place to eat[2]
A healthful bedroom[2]
A dairy[3]
A series of buildings showing the evolution of the home[1]

III. Design, using crayons, scissors, and water colors.

Health symbols for booklet covers and badges of health clubs.

Posters.

Mounting, labeling, and displaying of pictures.

(a) [a]Illustrating such topics as: Healthful places to visit.

(b) [b]Comparing

Wholesome and unwholesome foods
Good and bad posters
Good and bad housing conditions.

IV. Picture study of outdoor life and vigorous exercise:

[1] See History, pages 152-164.
[2] See Home Economics, pages 210-214.
[3] See Geography, pages 165-179.

Millet: The Sower.
Breton: Song of the Lark.
Machiel: The Sunbow (a statue).

*Upper Grades:*

I. Representation, using pencil, crayons, and water colors.

Object drawing, as needed for posters.
Figure drawing, as needed for posters.
Diagram[1] and maps[1].

II. Construction, using sandtable and other available materials.

Drainage[1].
A Sanitary Construction Camp.[2]

III. Design.

Pennants, badges, and insignia for use in health clubs and contests.
Costumes, stage properties, and scenery for health plays.
Posters.
Collecting, mounting, and labeling of
Pictures and accounts of national and international games and contests.
Pictures of furniture and utensils which are convenient and sanitary.
Materials appropriate for winter, summer, rain.
Costumes adapted to various climates and seasons.

IV. Picture study of subjects showing unhampered movement, vigor of health.

The Winged Victory.

[1] See Geography, pages 165-179.
[2] See Civics, page 138-151.

## Chapter XI

# MANUAL TRAINING AND HOME ECONOMICS AS RELATED TO HEALTH EDUCATION

By Marion J. Mayo, Ph.D., Thomas J. Rucker, A.B.
Edena Schaumberg

*A. Manual Training* — The function of manual training in the elementary schools is the development of certain forms of mental and motor control that will be directly or indirectly serviceable in subsequent life. The practice of many of the manual arts is itself a form of bodily exercise. These arts, therefore, relate themselves immediately to health in so far as they develop physical tone, strength, and vitality. They tend to develop and conserve the physical vigor and health of the school by furnishing a variety of needed bodily activity.

The manual arts do not lend themselves in any large way to imparting health instruction. No attempt has been made to present a set of problems to be taken up from grade to grade with the course of study as at present constituted. A knowledge of tools and materials and manual processes may, however, have a bearing upon some important matters of health—particularly the matter of occupational health. Occasion may be taken for giving the pupils instruction about occupational diseases and how they may be avoided. A knowledge of occupational or industrial

health may be of value to the pupils in selecting permanent occupations.

*Manual Training and Cleanliness* — On the other hand it will be clear that the manual training shop affords occasion for inculcating habits of order and cleanliness that have a direct bearing upon health. Life in the shop should be made to contribute to the systematic building up of a set of hygienic work habits. Maintaining a correct posture during work hours, attending to matters of light and ventilation in the shop, and having an eye to conditions of safety and sanitation in the immediate working environment should as far as possible be reduced to habit. A clean, orderly, sanitary shop should be maintained in every school. Cleaning up and setting the shop in order after work should be a matter of daily routine. Out-of-the-way corners must not be allowed to accumulate rubbish, dirt, and filth. Washing the hands and face and tidying up after work should be a matter of fixed habit. The routine life of the shop should result in health habits and ideals that will function in similar situations in the subsequent life of the child.

In the case of shop accidents, such as bruises, cuts, and skin abrasions, infection must be forestalled by immediate sanitary treatment. This habit well formed and reinforced by a knowledge of the possible consequences of neglect, may constitute an important safeguard for the future health of the child.

In the manual training shop, many projects arise that may be definitely related to health. Thus, the

boy who chooses the making of a fly trap as his project is probably already interested in the relation of the house-fly to the health of the family, and the teacher may direct this interest into channels that will lead to enlarged information on this subject. Or a boy may choose to make a rack for milk bottles. In this connection he would be apt to enjoy reading scientific articles on pure milk and how milk is kept free from contamination. Other projects that relate to the home, as the individual towel rack, tooth brush holder, comb tray, window boards, etc., may lead to valuable health suggestions, attitudes, and habits. While there would probably be no time for class reports or discussions on such health topics, yet much valuable information of this kind would undoubtedly be disseminated among the pupils through the social life of the shop. The teacher, if interested and alive to his opportunity, may do much to encourage this process as an incidental aim of his work.

*B. Home Economics as Related to Health Education.*

Home Economics aims at the intelligent management of the household. It aims at the scientific and, so far as possible, the artistic clothing, feeding, and housing of the family. It would keep every member of the household physically and mentally fit. The health of the family is one of its main objectives.

Home Economics concerns itself with sanitary household conditions. Every one should know when a house is properly lighted and ventilated and has the requisite amount of air and sunshine. The fun-

damentals of household sanitation should be common knowledge. But it must not be assumed that a sound knowledge of modern housekeeping is handed down to the child in a purely traditional way. The child must be taught how to keep walls and floors, closets, stairways, cellars, bedrooms, bath rooms, and kitchens in a safe and sanitary condition.

Home Economics teaches the relation of food to health. Not only minor illness, but much serious and chronic illness results in the family from inadequate knowledge of correct diet. The child should be taught what foods to eat to keep him strong and healthy. The prospective manager of a modern household should not leave the school without some knowledge of what foods should be purchased for the family table, when and how to purchase them, how to preserve them or keep them in a fresh and sanitary condition, and how to prepare them for the table in quantities and proportions suited to every member of the household and to the various seasons of the year.

The child should be instructed in how to clothe the body properly. Every child should be taught the relation of clothing to health, both in its make and material, and how it should be varied to meet seasonal changes. Much illness, minor and serious, both among children and adults, results from obvious indiscretions in the matter of clothing the body properly. How to select clothes, how to protect them from dust and moths and keep them in a proper state of

cleanliness and repair is essential knowledge in the modern household.

The instruction and training of Home Economics should tend directly toward the improvement of both individual and community health. The Home Economics department can cooperate with the health clubs, in their endeavor to help improve the sanitary condition of the stores and markets of the neighborhood, as well as those of the school, or in trying to improve the choice of school lunch, or the more extensive use of milk by school children.

The Home Economics work should be related to the other school subjects wherever possible, in trying to emphasize the promotion of health. Thus habits of cleanliness and manipulation that lead to proper results can be established. Such habits can be carried over directly into the home, and hence help obtain the desired standards of the care of the home in general, that will lead to more healthful living for the entire family.

In many cases the Home Economics work can be related to other school subjects in such a way that practical application can be made of the knowledge obtained in the class room. For example, in the intermediate grades, when the milk supply is being studied and the pasteurization of milk considered, the class might actually pasteurize milk in the Home Economics laboratory. This class would be the one studying infant care and feeding, so that the work would be vital to them.

Home Economics work may be begun in the intermediate grades, although generally not begun until the upper grades. However, this department might assist in promoting health education in the primary grades by the occasional use of the laboratory and equipment in some such ways as are here suggested: Comparison of the house constructed and furnished by the children with the housekeeping rooms that are part of the Home Economics laboratory; Making of costumes or parts of costumes for health plays; Dressing dolls in suitable clothing for summer or winter; Making butter or cheese, following a visit to the dairy; Making toast, following a visit to the bakery.

In the following outline the health problems are classified according to their relation to the study of food, clothing, and shelter in the intermediate and upper grades.

*Intermediate Grades* — In the intermediate grades health habits can be established, and knowledge and attitudes obtained, through the practical application in the Home Economics laboratory of the preparation of foods, making of clothing, making of articles for the home, and caring for the home. The suggested health problems for these grades are divided into those relating to the study of food, clothing, and shelter.

*Selection and preparation of food* — What foods should we eat for breakfast in order to stay healthy and grow? What can we take to school for lunch that will be good for us and keep us well? What can we

select from the menu at the school lunch room that will make us strong and keep well? What shall we eat for dinner that we may stay strong and well? Why must we eat fruit and vegetables in order to stay healthy? Why must we learn to eat all kinds of foods, not only a few we especially like, to grow and be strong and healthy? How much water should boys and girls drink every day in order to keep well? Does the baby need the same amount? Do mother and father need any more? What besides water should boys and girls drink every day to help them grow and stay healthy? How much milk should they drink each day? Do any other members of the family need milk? How much? Why should we drink milk or cocoa instead of tea and coffee if we want to grow and be healthy and strong? How should we care for milk in the home in order that it may be most healthful as food? How can we pasteurize milk at home to make it more healthful for the baby? What food should the baby have in order to stay well and grow?

*Dishwashing and disposal of waste* — How should dishes be washed that they may be clean and the food served on them healthful? How should dishes be handled in setting the table and in serving? What care should the kitchen towels have in order that the dishes be clean and sanitary? Why should we have "dish" towels and "hand" towels in the kitchen? What disposal should be made of the garbage in order to keep the kitchen in a sanitary and

healthful state? What disposal should be made of other waste materials?

*Good Habits* — Why should we wash our hands before touching any foodstuffs? Why should our nails be properly cut and cleaned before we handle foodstuffs? What habits of cleanliness should the members of the family observe before sitting down to the table? What has the regularity of meals to do with promoting the general health of the family? Should we eat between meals if we want to stay healthy? If so, what should we eat? When should we eat candy and sweets if we want to stay healthy? What habits of eating should all members of the family have so that their food will be most healthful to them? What care must be given our teeth after meals in order to keep them in good condition and, hence, keep our bodies well?

*Clothing* — Undergarments. Of what material should our undergarments be made to be most healthful? In summer? In winter? How should we be clothed at night in order to have the most restful and healthful sleep? Of what materials should our night clothing be made in summer? In winter?

*Care and Repair of Clothing* — What care should we take of our clothing in order that it may be kept in a clean and healthful condition? How does the repair of clothing relate to health? How does the wearing of a clean cooking outfit, when preparing foodstuffs, relate to health? What clothing must the baby have so that it may grow and be healthy? How shall we

clothe the baby in summer? In winter? How should the body be clothed at night in order to have the most restful and healthful sleep? Why do we dust the sewing tables and machines before starting to work? Why should we cut threads instead of biting them? Why should we keep needles and pins out of our mouths while working? What is the most healthful position of the body when sewing?

*Daily Care of the House* — How should we do the daily dusting in order to keep our house in a healthful condition? What can we do at home each day to help keep it clean and sanitary? How shall we care for the living room in order to make it a healthful place for the family's rest and recreation? How shall we care for the dining room in order to make it a healthful place wherein to serve the meals? How shall we care for the kitchen, that it may be a proper place to prepare healthful food? What care should be taken of the kitchen sink and plumbing to keep them in a sanitary condition? The refrigerator? How shall we care for the bedrooms that they may be healthful places in which to sleep and dress? How shall we care for the beds that they may be kept in a clean and sanitary condition? What special care should be taken of the bedroom when some one is sick? How shall we care for the bathroom in order to keep it in a sanitary condition? How shall we care for the walls and woodwork to keep our home in a sanitary condition? How shall we care for the floors in order to keep our home in a clean and sanitary condition?

What habits of cleanliness should a housekeeper have?

*Upper Grades* — In the upper grades the girls should realize that the right health habits and knowledge and attitudes can be made to function in the home for the benefit of the entire family. Foods may be prepared in quantities for a family, and meals planned and served. Foods may be selected for their healthfulness as well as economy, and the students may assist in marketing for the home. Goods for the invalid may be prepared, and the preservation of foods considered. Clothing may be made for various members of the family, with a view to its healthfulness as well as season, economy, and laundering. Household management may be considered from the standpoint of making the home the most healthful place for the family living there. An attempt should be made in these upper grades to obtain, not only the health habits, knowledge, and attitudes concerning the various phases of home-making, but also the ideals of healthful living.

The suggested health problems for these grades are divided into those relating to the study of (I) Food, (II) Clothing, and (III) Shelter.

*Classification of Foods—Food Principles* — What foods will replace and repair the muscular tissues and hence aid health? What foods must we eat to furnish our bodies with energy? What foods must we eat to furnish our bodies with heat? What foods will replace the bone and nerve tissues of the body?

What food regulates the body temperature and processes?

*Meal Planning—Menus* — What can the family eat for breakfast that will keep each member well and strong? For luncheon or supper? For dinner? How does variety in the diet promote the health of the family? What are some of the combinations of foods that make healthful and attractive meals?

*Marketing* — What fresh vegetables can be obtained in winter that will make the menu more healthful than using only canned vegetables? What are some of the conditions we should observe in selecting the stores and markets where we purchase foodstuffs? How shall we care for the food when it comes from the market in order that it may be most beneficial to the family when prepared? Why are under-ripe or over-ripe fruits apt to be unhealthful? Compare the healthfulness of oleomargarine and butter. Which is the more healthful in proportion to the amount of money spent, "ready-prepared" or "home-cooked" cereals?

*Preservation of Foods* — What precautions must be taken in the preservation of foods so that they will be in a healthful condition when ready for use? Compare the healthfulness of fresh and preserved foods? What precautions must be taken in the purchase and use of canned foods? How may we test and preserve eggs so that they will retain their freshness?

*Storage of Foods* — What precautions must be taken in the storage of foods, to keep them in a clean and healthful condition? How shall we care for the re-

frigerator in order that the food kept in it may stay fresh and healthful? How shall we care for the pantry so that the foods stored there may be kept clean and sanitary? What care should be taken of food left over after a meal so that it may be kept in a healthful condition until ready for use?

*Food for the Invalid* — What foods shall we prepare for the sick member of the family so that he or she may become well and strong again? How shall such food be served to the invalid so as to be most beneficial?

*Preparation of Foods* — How are economy and health closely related in the preparation of foodstuffs, as in paring of vegetables, and fruits? Why must food be prepared properly to be healthful? What are the advantages and disadvantages of cooking food so far as their healthfulness is concerned? How might the wearing of jewelry, such as rings, bracelets, and bracelet watches, impair the healthfulness of the food prepared? How may the continued use of hot water from the faucet, in place of boiled cold water, in cooking, impair the health? What habits of cleanliness should a cook have? What method of tasting food should the cook observe so that the healthfulness of the food may not be impaired?

*Serving* — What habits of cleanliness should we observe in serving foods? What habits of cleanliness should a waitress have? What are some of the sanitary precautions we should observe in selecting an eating place for a meal away from home?

*Relation of Food and Normal Weight* — What foods can I eat to help bring my weight up to the standard for the normal child of my age and height? Of what foods should I eat sparingly to try to get my weight within the limits of those for a normal child of my age and height?

*Clothing—Outergarments* — How does the kind of clothing we wear affect the health? What materials are most healthful for our summer clothing? What materials are most healthful for our winter clothing? How should we care for the family's winter clothing during the summer in order that it may be clean and sanitary when ready for use? How should we care for the summer clothing during the winter so that it may be clean and healthful when ready for use? What clothing does little sister need so that she may grow and be healthy? Little brother? What materials are most healthful for their summer clothing? Winter clothing?

*Laundering* — How does the laundering of new undergarments before wearing make their use more healthful to the wearer? How is laundering closely related to the family health? What equipment should the household have in order that the laundering may be done in the most sanitary and healthful way? What care should be taken of the laundry equipment so that the clothing may be clean and sanitary when laundered?

*Shelter—House Furnishing* — How shall we furnish the living room so as to make it a healthful as well

as a restful room? How shall we furnish the dining room in order that it may be a healthful as well as attractive and proper place to serve the meals? What care should the table linens have so as to be kept clean and healthful? How should the bed rooms be furnished so that the most healthful conditions will prevail? What care should the bedding and household linens have in order to be kept in a clean and healthful state? How should the kitchen be furnished so that food may be prepared in the most healthful manner?

*Household Management* — How will making a family budget help to make the family more healthful and happy? How shall we ventilate the home in winter so that the family will have enough fresh air to keep them healthy? In summer? How shall we heat the home so that it will be a healthful place in which to live in winter? What use can be made of disinfectants to keep the home in a more healthful state? How does the elimination of flies and household pests, such as ants, roaches, and mosquitoes, help promote the family health? What care should be taken with the family pets—the cat or dog—in order that the health of the family may not be impaired?

## Penmanship

Roselle D. Hughes

Penmanship may be called a tool subject; that is, it exists in the curriculum as a means of expressing in written form ideas acquired in other subjects; being a means of expression it correlates, therefore, with all

subjects in the curriculum and lends itself to the teaching of health by giving the teacher an opportunity to instill health habits.

If the aims of health education are, first, to teach health facts; second, to give certain attitudes toward acquiring good health; third, to instill health habits; it will be seen that the part to be done through penmanship is the instilling of health habits. The habits that are to be instilled are correct posture and correct use of materials. Correct posture requires an easy and healthful position of the body, that it be not bent over the desk, thereby compressing lungs and impairing the depth of breathing; bent posture also compresses the stomach and accordingly interferes with the process of digestion; incorrect posture is conducive to fatigue and is a tax on the nervous system. Incorrect posture is responsible for curvature of spine and defective vision.

Another means of establishing health habits is through the proper care and use of writing material. The child should be warned to keep his material in good condition, to keep pencil and pen out of his mouth and ears. He should be encouraged to keep his pencil in the pencil bag which the school provides; he should be taught to use a part of a blotter as a penwiper rather than the insanitary clothpenwiper. These habits should be initiated in the primary grades, and fixed in the intermediate and advanced grades.

The health helps suggested in other subjects in the course may, during the Penmanship period, be put

in permanent and attractive form and carried home to parents, mailed to friends, or put in a health book or health bulletin; that is, material that is used in English for health projects, health mottoes, or health slogans can be used very effectively during the penmanship period for practice instead of the stereotyped sentences.

## Chapter XII

# ADMINISTRATION OF THE HEALTH PROGRAM

By E. George Payne, Ph.D.

This discussion of the administration of the health program will be presented under the following heads: first, the school organization; second, the children's activities; third, the measuring of results by means of a scale that will enable the teacher or principal to determine the standard of attainment in individual children.

*The Kind of Organization that will be Effective* — In the first place, the school organization is a matter of vital concern in making a health program effective because health must be secured as a result of community and not of merely individual effort. The school organization must be such as will include every child in the community if it is to secure the effort of every child in the accomplishment of the common purposes and in the realization of the larger ideals of citizenship through specific health, safety, and thrift endeavors. To secure these ends, various kinds of school organizations have been suggested. All of them have their advantages and defects. Moreover, it is generally true that any set form of organization insisted upon as applicable to all conditions, is defective because no general plan can be suited to all schools and communities. For that reason it is not the

purpose here to recommend a hard and fast organization to be adopted regardless of local conditions. There are, however, some essential features that must be incorporated in any organization if satisfactory results are to be secured. For instance, it would be unwise to select certain children from the whole school or to take a few children of one room and organize them into a health club. Such an organization would not be effective in carrying out the program; it would not be inclusive enough. The organization, whatever it is, must include all the children. For this reason, it is better to have committees of children in each room to take the initiative in each kind of endeavor, such as health, thrift, and safety.

*Activities of the Children* — The room with all the pupils might be converted into a health, safety, or thrift club when the report of a committee or when other club work is necessary. For the organization of the whole school, representatives from the various rooms should come together for the purpose of considering the problems of community welfare. A meeting of this kind can well take place at a luncheon during the noon hour at school. Such meetings have been very successful, and the representatives always make some pertinent recommendations that are put into effect by the school authorities.

*Organization of the Children of a Whole Community* *—

*A complete discussion of the school organization is presented in a monograph of the National Safety Council, entitled "Education in Accident Prevention," Lyons and Carnahan, Chicago.

The picture presented here shows the representatives of twelve rooms of an elementary school seriously discussing ways and means of realizing effective health practices in the school and community.

The organization for the purposes of promoting health practices might be extended to include all the school of any community or city. A representative of each school might be called into a larger convention for occasional discussion of health, accident prevention, thrift, or civic problems for the whole community. While there is no set form for calling or organizing such a conference, yet the following suggestive plan lends itself to most communities.

*Procedure for Stimulating the Work of Accident Prevention and Health in the Schools and for Coordinating Activities.*— 1. Issue a questionnaire to discover the general line of activity under way in

A. Accident prevention.

B. Health promotion.

The questionnaire should merely aim to discover what is being done, and should not attempt to be directive or suggestive.

II. Conferences to be held.

A. Children of the eighth, seventh, or upper grades of the school.

1. Receive reports from children of what is being done in their schools in both activities. Even the simplest and crudest report should have a place on the program under this heading.

2. Organize children's board of accident prevention and health promotion activities, naming chairman and vice chairman for accident prevention, a vice chairman for health promotion, and four directors each for accident prevention and health promotions.

3. Plan a program for the summer for the gathering of such data concerning accident and health as will furnish material for a conference in the fall.
4. Set time for conferences in September for the receipt of the summer reports and for the formulation of plans by the children for the control through the school children of the safety and health menaces.

B. Conferences of principals to be held later to discuss what values may have become evident in the children's conferences, and to plan for co-operation with the children's conference in the fall.

*Profitable Activities for Children* — The administration of the health program demands a discussion of the activities in which children may profitably engage. A position was taken in Chapter I that is important to recall here. We cannot be satisfied with instruction merely, but we must offer opportunities for activities on the part of the children themselves. It is necessary here, therefore, to consider somewhat in detail what those activities ought to be. It is evident, in the first place, that children should not be looked upon as agents for insuring healthful conditions in the community. They are not to be regarded as expert inspectors assigned to the duty of examining alleys, vacant lots, back yards, streets, groceries, and the like. Rather, they should be regarded as in the process of acquiring the ability to assume the responsibilities of citizenship in the com-

munity. The activities, therefore, in which the children should engage ought to be selected with reference to their suitability for the development of habits, of ideals in and attitudes upon civic problems. From this point of view, the first task is to discover the best method of taking care of the health demands of the group of which the children are a part. A serious mistake has been made in assigning children of school age community obligations before they have become proficient in the activities of their immediate environment. For instance, children have been assigned duties in cooperation with the police, the street authorities, and the city health authorities in a "clean-up" campaign when there were undesirable conditions in the school itself that should have been removed. Children have been assigned the responsibility of cleaning up the community before they had learned to keep their hands and bodies clean, and even when there was no adequate means in the school for keeping themselves clean. Before children attempt to solve the problems of the community at large they should acquire the technique of dealing with the problems of social and personal welfare in the school community of which they are a part. It is obvious that intelligence and ability of children can be developed to the best advantage in the care of needy children in the school. I do not mean children merely in need of better food and clothing, but children who have not acquired habits, ideals, and attitudes connected with health.

*Children's Activities Must Concern Themselves with the School* — The first problem or project with which the children of any school district may concern themselves is that of the health of their own school; not with those activities growing out of the relationship of the school to the children in their community activities. Children must first make their own school a model community and in doing so acquire the technique, practice, and ideals of the general welfare. After they have solved all problems connected with their own school welfare, they will then be equipped to extend their services to the larger community. I doubt whether a great deal of community activity ought to be introduced before the senior high school period, and certainly such activity should never be introduced into the junior high school grades until the children have worked out their own school projects in all their details, and such activity should not be introduced into the first six grades at all.

What then are the activities appropriate to the children of an elementary school? A full discussion of children's activities with reference to safety are presented in the monograph *Education in Accident Prevention* referred to above and need not be repeated here. However, I might say in a general way that the care of the children in the buildings, on the grounds, and in the streets of the immediate neighborhood of the school affords sufficient projects to insure to an elementary school all the activities necessary for developing habits, ideals, and attitudes of health and accident prevention.


This picture shows the children cooperating with the police and street department in placing large signs in the streets in front of the school. The children put out the signs before school opens and take take them in after the children arrive at school. This activity engaged in day after day develops a strong sense of group responsibility.

This picture shows the older children of an elementary school helping others across the street at a dangerous crossing not safeguarded by traffic policemen. The plan of assisting at street crossings was worked out by the children themselves in the club meetings.

Children may also serve effectively in guarding the halls to insure that thoughtless youngsters observe safety practices. They are explaining here that one step at a time is enough. They decided upon this plan at a meeting for the discussion of safety practices. The principal welcomed its trial.

This picture shows the children lined up for inspection. The children learn very soon to respect the inspection officer, and no one could doubt the seriousness of this group.

In order to best present these projects we have introduced a number of photographs of children in action.

*Activities Connected with a Health Program* — The carrying out of a health program affords a great variety of activities. It is the purpose merely to suggest a few of those available. The first problem is that of cleanliness and children's inspection. Any one connected with an elementary school knows just how difficult it is to have children keep clean hands.

There are also a large number of problems in connection with school feeding and proper nutrition. If the school has a domestic arts department, it is simple enough to develop menus, serve luncheons, and to utilize funds collected by salvage or by other means for the purpose of insuring proper nutrition, where sufficient is not provided at home. If children can work for money to feed the Chinese, why not use some of the money earned to feed starving children in the school group? The motive for proper feeding may be developed in connection with the use of the health chart.

Another line of activity of very great value is the mending of the clothing of the children in the school. This activity has the value not only of teaching children how to mend clothes, therefore encouraging thrift, but it develops a feeling of responsibility for the group. In connection with cleanliness it may moreover impart a health value, and means are always taken for insuring cleanliness when the clothes are mended.

These children are drinking milk provided for them by the school children. A desirable way to inculcate responsibility for the needy and suffering, even in their own community.

This picture shows the children mending clothes as a part of their regular work.

The foregoing suggestions afford examples of cases that might be multiplied indefinitely; no doubt numerous others will be utilized by the progressive teacher or school.

*Measuring Results and Determining Standards of Attainment* — The final problem with which this chapter deals is the measuring of results by means of a scale that will enable the teacher to determine a

This picture shows a room acting as a health club. The only difference between the room as a class and as a club is that in the latter the officers preside and direct the discussions of the health problems.

definite standard of attainment in individual children. The thing of greatest importance in this part of the chapter is a scale for the measurement of attainment in the development of habits and ideals in health and along other civic lines.

This scale has the same object as has a scale for measuring attainment in spelling, arithmetic, language or any other subject; it provides an objective unit

This picture shows the children being weighed by the teacher. In the upper grades the children weigh each other and each keeps his weight record.

of measure that can be applied to the children in each grade so that the teacher may know how her children compare with children in other parts of the community or country. The ideal cannot be fully attained in this first scale as the practice on which this scale is based is not sufficient to determine the proper degree of attainment for each grade. The data we expect to gather through the reports from the various parts of the country will provide us with means for adequately measuring health habits and practices.

*A Scale for Measuring Personal and Social Behavior — Habits and Practices in Health and Accident Prevention. Total Points — 500.*

**A-355**

I. FOOD 83

| | | | |
|---|---|---|---|
| Variety 29 | Quantity 20 | Regularity 14 | Manner of Eating 20 |

II. AIR 30

| | | | |
|---|---|---|---|
| Breathing 9 | Bedroom Air 12 | Schoolroom and Study 5 | Time in Open Air 4 |

III. DRINK 25

| | | | |
|---|---|---|---|
| Amount 2 | Regularity 3 | Sanitariness 14 | Tea and Coffee 6 |

IV. EXERCISE 45

| | |
|---|---|
| Variety 30 | Regularity 15 |

V. SLEEP 28

| | | |
|---|---|---|
| Amount 15 | Regularity 10 | Manner 3 |

VI. POSTURE 15

| | | | |
|---|---|---|---|
| Sitting 6 | Standing 3 | Walking 3 | Work 3 |

VII. CLEANLINESS 91

| | | | |
|---|---|---|---|
| Hands and Nails 35 | Teeth, Mouth, Head 16 | Bathing 20 | Bowel Movement 20 |

VIII. CLOTHING 34

| | | | |
|---|---|---|---|
| Cleanliness 13 | Suitability 10 | Miscellaneous 11 | |

IX. INDICATIONS OF HEALTH 4

| | | | |
|---|---|---|---|
| Physique 1 | Height 1 | Weight 1 | Vital Index 1 |

**B-75**

X. SAFETY HABITS 75

| | | | |
|---|---|---|---|
| On the Streets 31 | At Home 23 | In School 12 | At Play 9 |

**C-70**

XI. SERVICE—Social and Civic Habits and Practices 70

| | | | |
|---|---|---|---|
| Home 20 | School 20 | Streets 10 | Community 20 |

## Instruction for Use of the Scale

1. Allow full value for each point or nothing.

2. Practice in any item does not mean that there can never be an exception. For instance, if a child is kept up at night beyond his regular hour of retiring once a week to attend a moving picture show, nothing should be allowed for the first item under regularity. On the other hand, there might be an imperative reason for keeping a child up later than the regular hour on an occasion of a special nature. If such occasion occurs often or regularly, the child should be given no credit.

3. The scale should be used by the teacher only. Pupils will become familiar with the points of the scale through instruction and practice. The parents will also become familiar with it through the children and through conferences with the teacher.

4. The scale should be used in rating the child at the beginning of each semester. It should not be applied to children until the beginning of the second year of school.

5. It will take some time to use the scale, as it will have to be used with each individual child separately. After the first use the teacher will be able to examine from four to six children in an hour. Its value in insuring health practices is worth more than the time required.

6. The weight given to each point is determined by two factors: (a) the difficulty of forming the habit or practice; (b) the value of the habit to the child when once formed.

7. The number of points required in each grade is based on the median attainment among the most healthy children in a number of schools.

8. The validity of the scale has been judged by its application to the best and worst conditioned among ten thousand school children.

9. It would appear that too small a number of points is allowed for item under B, and C. This apparent lack of due recognition disappears when it is clear that the child must attain the minimum number of points for his grade under each of the three headings A, B, and C. This virtually makes each division independent of the other in rating.

*Key to Scale for Measuring Individual and Social Behavior— Habits and Practices in Accident Prevention and Health — Total Points — 500.*

*I Food 83*

*Variety 29*

Drink from a pint to a quart of milk every day.....3
Eat bread and butter every meal.....5
Eat some fruit every day (fresh, dried, or preserved)...5

Eat some green, leafy vegetable every day (spinach, lettuce, kale, etc.).....5
Eat some starchy vegetable every day (as potato).....3
Eat a cooked cereal for breakfast daily.....2
Eat meats but once daily.....2
Eat candies, cakes, etc. only as dessert.....4

*Quantity 20*

*Food Requirements in Calories — Age — Sex*

| Age | Boys Total Cal. | Boys Protein Cal. | Boys Energy Cal. | Girls Total Cal. | Girls Protein Cal. | Girls Energy Cal. |
|---|---|---|---|---|---|---|
| 6-7 | 1400-1700 | 168-204 | 1232-1496 | 1300-1600 | 156-192 | 1144-1408 |
| 7-8 | 1500-1800 | 180-216 | 1320-1584 | 1380-1680 | 165-201 | 1215-1479 |
| 8-9 | 1600-1900 | 192-228 | 1508-1672 | 1460-1760 | 175-211 | 1285-1549 |
| 9-10 | 1700-2000 | 204-240 | 1496-1760 | 1550-1850 | 186-222 | 1364-1628 |
| 10-11 | 1900-2200 | 228-264 | 1672-1936 | 1650-1950 | 198-234 | 1462-1716 |
| 11-12 | 2100-2400 | 252-288 | 1848-2112 | 1750-2050 | 210-246 | 1540-1804 |
| 12-13 | 2300-2700 | 276-324 | 2024-2376 | 1850-2150 | 222-258 | 1628-1892 |
| 13-14 | 2500-2900 | 300-348 | 2200-2552 | 1950-2250 | 234-270 | 1716-1980 |
| 14-15 | 2600-3100 | 312-372 | 2288-2728 | 2050-2350 | 246-282 | 1804-2068 |
| 15-16 | 2700-3300 | 324-396 | 2376-3204 | 2150-2450 | 258-294 | 1892-2156 |

FOODS RICH IN

| Protein | Fat | Carbohydrate | Protein and Fat | Prot. and Carbo. |
|---|---|---|---|---|
| Beef, dried, lean | Bacon | Sugar | Almonds | Peas, dried |
| Eggs, Whites | Cream | Tapioca | Beef, fat | Beans, dried |
| Cheese, cottage | Butter | Rice | Cheese | Bread |
| Fish | Butterine | Cornstarch | Eggs | Farina |
| Milk | Lard | Potatoes | Milk | Oatmeal |
| | Salt pork | Honey | Peanuts | Macaroni |
| | Olive oil | Molasses | Peanut butter | Milk skim |
| | | Dates | Sardines | Buttermilk |
| | | Bananas | | |

*Foods Rich in Mineral Constitutents and Cellulose*

Spinach — lettuce — string beans — tomatoes — celery — cauliflower — cabbage — carrots — beets — squash — cucumbers — oatmeal — wholewheat bread — raisins — prunes — figs — strawberries — beef, lean — egg yolk.

*Known Vitamine Carriers*

Liver — brains — heart — kidneys — eggs — milk — cheese — butter — leafy vegetables — tomatoes — fresh fruits — whole grain cereals.

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*Regularity 14*

Eat a warm breakfast every morning.....2
Eat something warm for lunch (as soup).....3
Eat meals every day at the regular hour and in regular amounts.....3
Do not eat candies, cakes, ice-cream, etc., between meals.3
If hungry eat some bread and butter, and not within two hours of another meal.....3

*Manner of Eating 20*

Eat slowly in a calm, unexcited frame of mind.....5
Chew all foods thoroughly.....5
Engage in pleasant conversation with the family.....5
Tell a story or anecdote or interesting incident of the day.5

*II Air 30*

*Breathing 9*

Breathe deeply — take ten deep breaths before open window night and morning with setting up exercise...4
Breathe always through the nostrils, not through the mouth.....5

*Bedroom Air 12*

Sleep with windows well open every night.....5
Do not sleep in draft — use window boards if necessary..3
Air out bedroom every day.....4

*Schoolroom and Study Room 5*

See that the room where you live or study is properly supplied with fresh air.....5

*Time in Open Air 4*

Spend from two to three hours daily in exercise in the open air.....4

*III Drink 25*

*Amount 2*

Drink four to six glasses of water every day.....2

*Regularity 3*

Drink a glass of water on rising in the morning.....1

Drink two glasses of water in the forenoon at regular times daily.....1

Drink two glasses of water in the afternoon at regular times daily.....1

*Sanitariness 12*

Do not drink out of a cup after some one else.....5

Drink only pure water from the fountain or out of a clean cup.....4

Do not drink cold water while overheated, from play or work.....3

Do not drink water containing cracked ice.....2

*Tea and Coffee 6*

Do not drink tea or coffee.....6

*IV Exercise 45*

*Variety 30*

Two hours of out-door exercise daily. Run, skate, hike, swim, or play tennis, baseball, basket ball, volley

ball, or hockey. Little children may plan running games, skate, swing, play see-saw, or skip rope.....20
Only light exercise should be taken for one-half hour before each meal and one hour after.....10

*Regularity 15*

Exercise every day..... 5
Take exercises every morning on rising and every night on going to bed or after long periods of inactivity....10
*Setting-up exercises* — stretching, bending, twisting, breathing. Use arms, legs, and trunk in each exercise.

## *V Sleep 28*

*Amount 15*

*Sleep Needed*
(*Sleep alone.*)

| | Hours | | Hours |
|---|---|---|---|
| 5-6 years | 11 -13½ | 13 years | 8½-10 |
| 7 years | 10½-13 | 14 years | 8½-10 |
| 8 years | 10½-12½ | 15 years | 8½-9½ |
| 9 years | 10 -12 | 16 years | 8½-9 |
| 10 years | 10 -11½ | 17 years | 8½-9 |
| 11 years | 9½-11 | 18 years | 8½-9 |
| 12 years | 9 -10½ | | |

*Regularity 10*

Go to bed at same hour every night..... 5
Get up at same hour every morning..... 5

*Manner 3*

Sleep on the side, mainly the right side..... 3

*VI Posture 15*

*Sitting 6*

Sit erect while conversing ..... 3
Sit erect at study and in writing ..... 3

*Standing 3*

Stand erect with chest forward, head high ..... 3

*Walking 3*

Walk with erect carriage, feet pointing directly forward 3

*Work 3*

Keep an erect, healthy posture while placing work on the blackboard, and in all you do ..... 3

*VII Cleanliness 91*

*Hands and Nails 35*

Wash hands before every meal ..... 5
Clean finger nails once every day ..... 5
Keep hands and nails clean and cuticle pushed back at all times ..... 20
Keep nails out of mouth — do not bite ..... 5

*Teeth, Mouth, Head 14*

Clean teeth, mouth and tongue morning and night .... 5
Do not put corners of books in the mouth ..... 3
Do not put fingers, pencils, etc., in the mouth ..... 3
Do not dampen fingers in the mouth to turn the pages of a book ..... 3
Do not lick postage stamps or envelopes ..... 3

*Bathing 20*

Take a full tub bath twice every week ..... 10
Sponge the arms and breast daily in cold water ..... 5
Wash perspiring feet every day ..... 5

*Bowel Movement 20*

Have a bowel movement regularly every day.....10
Do not take drugs or medicines for this. Depend solely on food, water, exercise, and habit.....10

*VIII Clothing 34*

*Cleanliness 13*

Keep clothing well dusted and properly cleaned..... 5
Keep dresses and stockings properly mended..... 4
Wash stockings every day..... 4

*Suitability 10*

Wear warm porous clothing in winter..... 3
Wear light porous clothing in summer..... 3
Wear shoes with broad heels and sufficient length..... 4

*Miscellaneous 11*

Put on a wrap in sitting down after exercise..... 3
Keep clothing properly aired..... 3
Do not sleep in clothing worn in day..... 5

*IX Indications of Health 4*

*Physique 1*

Physique: Robust, normal, frail emaciated..... 1

*Height 1*

Height: Amount above or below norm for his age..... 1

*Weight 1*

Weight: Amount above or below norm for his age..... 1

*Vital Index 1*

Vital Index: Amount above or below norm for his age ..1

*X Safety Habits 75*

*In the Streets 31*

Look in both directions before crossing the streets..... 3
Go straight across the street and at the crossings only.. 3
Do not tarry in the street but cross promptly..... 3
(Help the little ones to cross the street safely)..... 3
Do not play on railroad tracks..... 3
Do not handle dangling wires or come into contact with electric wires..... 5
Do not ride on the outside of street cars..... 3
Do not beg rides on autos..... 5
Do not climb on trucks and wagons..... 3

*At Home 23*

Be careful about the use of matches; keep them in a safe place..... 2
Be careful about the use of kerosene; keep it in a safe place; do not start a fire with it..... 3
Be careful always in using the gas range..... 3
Be sure electric wires are disconnected before touching them..... 3
Be careful about the stairways and fire escapes..... 3
Do not climb on chairs, tables and step-ladders unless necessary, and then only after examination..... 3
Do not place heavy objects or sharp instruments where they may fall upon some one..... 3
Do not leave chairs or other objects where some one may stumble over them in the dark..... 3

*At School 12*

Do not hurry down the stairways..... 3
Do not run in the halls..... 3

Look before going in and out of doors and do not rush.. 3
Take one step at a time on stairways..... 3

*At Play 9*

Do not run on busy traffic streets in play..... 3
Do not play near high places or on rough grounds..... 3
Keep away from quarries..... 3

*XI Service — Social and Civic Habits and Practices 70*

*Service at Home 20*

Help clean the house, make beds, air rooms..... 5
Keep shoes shined, clothes brushed..... 5
Run errands which takes one into open air..... 5
Keep yard and outbuilding free from rubbish..... 5

*Service at School 20*

Serve on Health or Safety Committees..... 5
Weigh smaller children. Help mend clothing..... 5
Call attention in every case to children who violate health or safety practices.....10

*Service on the Streets 10*

Help children across street in congested quarters..... 5
Place safety signs in street under direction of police.... 5

*Service to the Community 20*

Notify the Police Department of any obvious violations of ordinances..... 5
Notify the Fire Department in case of fire..... 5
Notify the Health Department of menaces to health in the neighborhood..... 5
Notify the Street Department of holes in the street, obstructions, unclean alley in neighborhood..... 5

*Class Record Sheet. Use this Sheet to Report the Standing of the Whole Class*

| | Names | Age Yrs. | Age Mo. | Score in Health | Score in Accident Prevention | Score in Service | Total Score |
|---|---|---|---|---|---|---|---|
| 1. | | | | | | | |
| 2. | | | | | | | |
| 3. | | | | | | | |
| 4. | | | | | | | |
| 5. | | | | | | | |
| 6. | | | | | | | |
| 7. | | | | | | | |
| 8. | | | | | | | |
| 9. | | | | | | | |
| 10. | | | | | | | |
| 11. | | | | | | | |
| 12. | | | | | | | |
| 13. | | | | | | | |
| 14. | | | | | | | |
| 15. | | | | | | | |
| 16. | | | | | | | |
| 17. | | | | | | | |
| 18. | | | | | | | |
| 19. | | | | | | | |
| 20. | | | | | | | |

Maximum number of points in Class A..... B..... C.....

Median number of points in Class A..... B..... C.....

Minimum number of points in Class A..... B..... C.....

*Required Minimum Attainment for Each Grade*

| END OF GRADE | A | B | C | TOTAL |
|---|---|---|---|---|
| I | 247 | 72 | 10 | 329 |
| II | 259 | 72 | 15 | 341 |
| III | 272 | 72 | 20 | 364 |
| IV | 285 | 72 | 25 | 382 |
| V | 295 | 75 | 30 | 400 |
| VI | 305 | 75 | 40 | 420 |
| VII | 325 | 75 | 70 | 470 |
| VIII | 355 | 75 | 70 | 500 |

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Child Health Organization, 156 Fifth Avenue, New York City. Various publications.

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# INDEX


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